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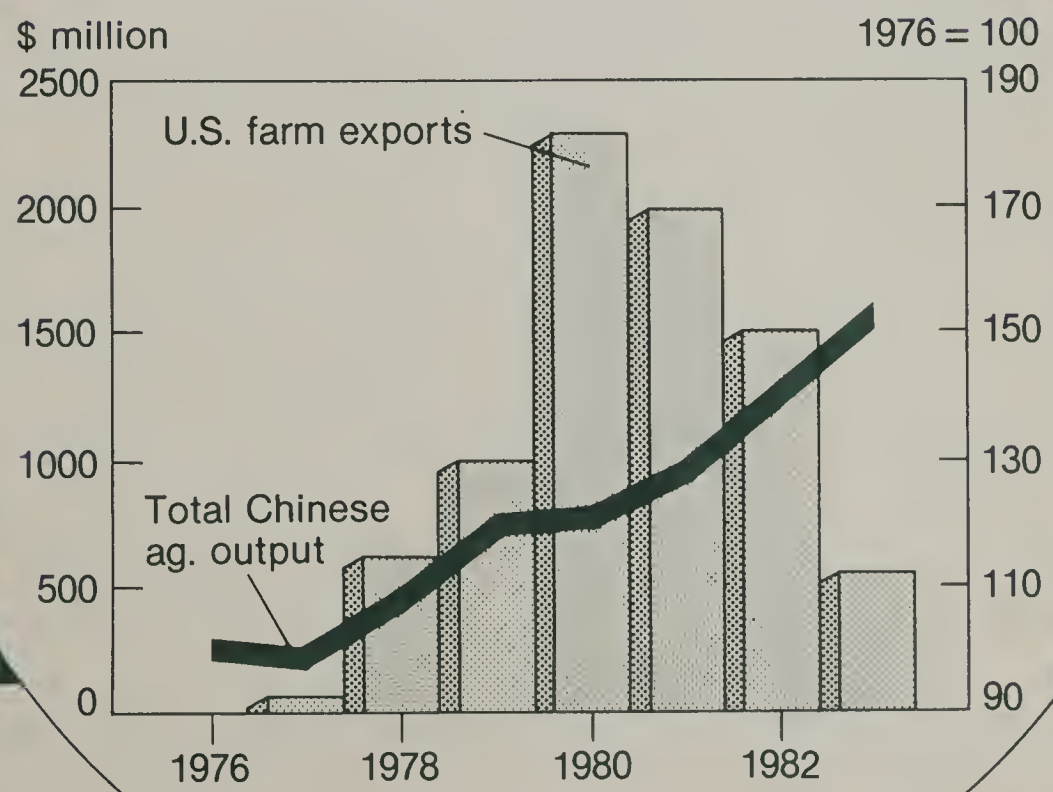
# China

## Outlook and Situation Report

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### China's Rising Production Depresses U.S. Farm Exports



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# Summary

**China's grain output in 1984** is forecast to rise about 1 percent to 390 million tons. The wheat crop is expected to decline about 2 percent because weather this spring has not been as good as in 1983. However, rice and coarse grain production could hit records. A good cotton crop is likely, and the oilseed outturn is projected to equal 1983's 28.7 million tons. The output of meat and other livestock products should grow at a modest pace because improving the livestock industry is one of the top priorities for the farm sector.

Imports of agricultural products will likely remain depressed in 1984. Grain imports may show little growth, and cotton, soybean, and edible oil purchases will be negligible. Sugar imports may fall further. Record cotton crops for the past 4 years have shifted China from a major importer of raw cotton to an exporter. A similar situation is true for oilseeds.

**Despite the stagnant picture** for total imports, U.S. agricultural exports will rise as China steps up purchases of U.S. grain in order to meet its long-term agreement, which expires at the end of 1984. Most of the gain will be in wheat; corn purchases are expected to remain low. If the terms of the agreement are met, U.S. farm exports to China will exceed \$1 billion in 1984, compared with \$544 million in 1983.

The gross value of China's 1983 agricultural production increased 9.5 percent from 1982. Grain output reached a record 387 million tons, with wheat, rice, and coarse grain harvests at new highs. Farmers also picked a record cotton crop, which hit 4.6 million tons, more than a million greater than 1982. The oilseed crop rose 6 percent because of a 29-percent rise in cottonseed production. Nevertheless, the rapeseed crop was down nearly 24 percent. In addition to good weather, yields of most crops increased because of more plentiful inputs—fertilizer use rose 9.7 percent—and because improved policies boosted efficiency and incentives.

**The livestock sector** continued to expand slowly in 1983. Meat output (which is mostly pork) rose 3.8 percent to 14 million tons, largely because of an increase in the number of hogs slaughtered. Improvement in feed processing and a shortened feeding period due to increased use of grains are boosting the efficiency of meat production. The number of large animals increased during the year, mainly because of rising demand for sources of draft power.

Last year, agricultural imports fell 25 percent. Record grain crops in 1982 and 1983, large stocks, and sharply higher procurements improved the Government's supply of grain. Domestic surpluses replaced imported grain and contributed to the nearly 3-million-ton drop in grain imports. Shipments from Argentina, Canada, and the European Community were up, but Australia shipped less because of a poor 1982/83 crop. U.S. grain shipments declined 55 percent to 3.8 million tons, the lowest level since 1978.

**The average per capita income** for rural inhabitants reached an estimated \$150 in 1983. Between 1978 and 1982, income rose 93 percent—a sharp contrast to the preceding two decades, when living standards showed only slight improvement. Consumer spending is changing with the rising incomes. Varieties and quantities of basic items, such as clothing and food, have increased. Also, farm families are expanding their purchases of more expensive items, such as sewing machines and television sets. In addition, more housing is going up around the countryside.

In the past few years, reforms have boosted productivity. Policies requiring each agricultural region to be self-sufficient are being relaxed, and farmers are permitted to specialize in production according to locality. More liberal rules governing commercial transactions now permit a freer flow of goods and services. Rigidities in the commune system are being removed, allowing farmers greater flexibility to make production decisions and providing easier access to credit and markets. A new incentive system that rewards the extra efforts of farm households has helped boost production.



## ECONOMIC PERFORMANCE AND POLICY

### General Economy

China's economy in 1983 continued the rapid pace of expansion that began in 1978, racking up the best overall growth of any recent year. On the strength of very large gains in both agriculture and industry, real national income for the year was up 9 percent. The gross value of industrial output rose 10 percent, while agricultural output increased 9.5 percent.

The rapid expansion was a wide departure from the planned targets for the year, which had provided for 4-percent growth for agriculture and a 4- to 5-percent expansion for industry. The divergence between actual and planned industrial growth is particularly striking. Faced with serious energy shortages and an imbalanced economy, the central Government has attempted to limit growth of heavy industry in favor of expanding output of light industrial and export products. But while light industrial production grew 8.7 percent during 1983, heavy industrial output jumped 12.4 percent, paced by a 21-percent surge in machine building. The unplanned spurt of growth from this energy-using sector led to a further tightening of energy supplies, despite a 6.7-percent increase in primary energy output.

The rapid growth in production led to substantial increases in incomes. The average income of rural residents rose nearly 15 percent. The growth of urban incomes continued to be less spectacular, increasing 6.4 percent during the year. Retail sales of consumer goods were up 11.2 percent, and the official retail price index showed a gain of only 1.5 percent. However, retail prices of some commodities were up sharply, as prices of items such as fresh vegetables and fruit rose more than 10 percent.

China again registered a trade surplus in 1983, although imports increased 18 percent, compared with a 6-percent growth in exports. Because of a large current account surplus, gold and foreign exchange reserves rose to the equivalent of nearly a year's imports.

In a replay of plans for 1983, the Government has targeted only moderate growth for 1984. The 1984 plan calls for 4-percent growth in both industry and agriculture. The agricultural target will be difficult to achieve given the large gains of the past 2 years.

During 1984, investment will be concentrated in the major bottleneck sectors of energy and transportation, and the central Government will again try to restrain unplanned investment by local authorities and enterprises. The central Government is also concentrating on new ways to increase its control over the economy. Measures going into effect this year include new sources of revenue for the financially strapped central Government and additional measures to centralize control over the use of foreign exchange.

### Agricultural Performance and Policy

Agriculture registered major gains in 1983. Output and efficiency rose because of favorable weather and policies such as specialization and balanced growth for crops and

rural industry. The use of new incentive systems was expanded; more marketing channels were opened up; and procurement prices were maintained at high levels.

### Remarkable Success in 1983

The gross value of agricultural output rose 9.5 percent last year, and record crops of grain, cotton, sugar beets, and tea were harvested. Per capita farm income rose to over 300 yuan, and rural living standards climbed significantly. Rural households in 1983 alone built 700 million square meters of housing space.

Balanced growth policies continued to be successful (table 1). Specialization, relaxed restrictions, and promotion of specialized rural households resulted in substantial growth for livestock, forestry, fisheries, and rural sideline output.

Rural sideline production has risen rapidly in the past few years. The value of output rose to 82.1 billion yuan in 1983, 10 percent above 1982. Currently, there are more than 1.3 million rural enterprises, employing 30 million laborers. In 1983, these enterprises supplied 20 percent of China's coal, 33 percent of the phosphorus fertilizer, and 67 percent of the bricks and tile, as well as a growing share of consumer goods sold in rural areas.

Last year's crop output gained 8 percent, the second largest increase since 1978. There was a slowdown in the rate of growth of most cash crops, but the rate of growth for grains increased. More inputs and the spread of improved technology contributed to the gains. Policy and weather also played particularly important roles.

### Incentives Added

Since 1979, rural administrators have been admonished to improve the performance of the sector by introducing incentive systems that correlated work effort with material rewards or penalties. Production teams experimented with a wide variety of incentive schemes collectively called production responsibility systems. Different systems continue to be used, but in 1982 and 1983, the "full responsibility to household system" became the most prevalent type. This system hereafter is referred to as the household contract system, or simply the *baogan* system.

In this system, households negotiate with production teams to farm given parcels of land, raise livestock, or care for trees. These households agree to return a certain quantity of their output to fulfill collective and

**Table 1.—Index of growth of agricultural subsectors, 1979-83<sup>1</sup>**

	1979	1980	1981	1982	1983
1978=100					
Total	108.6	112.8	120.3	133.4	146.1
Crops	107.2	106.6	112.9	124.3	134.6
Livestock	114.6	122.6	129.9	147.0	152.7
Forestry	101.4	113.7	118.4	128.5	141.7
Fisheries	96.6	103.9	108.5	121.9	132.5
Rural sidelines	112.4	133.5	148.5	167.4	200.2

<sup>1</sup>Calculated from State Statistical Bureau data in constant 1980 prices.



state obligations and are then permitted to retain the surplus for themselves.

Households in this system are not free, independent farmers. They still function under the jurisdiction of production teams in the commune system. State plans continue to flow from Beijing, through the regular provincial to commune channels, and then to households. The *baogan* system does, however, give farm families more freedom than they have had in decades, and it provides them a framework within which they can maximize income. These two features, pursuit of freedom and profits, generated a great deal of energy in rural areas in 1983.

During 1980-1982, this system was used successfully to encourage farmers to raise the output and yields of such crops as cotton. Last year, however, was the first time the government and party leaders pressed units to use the system on an extensive scale to motivate farm families to raise grain crops.

Several features of the *baogan* system motivate farmers to increase output. First, through the setting of contracts, households can see the direct link between their labor, output, and income. Second, households now have greatly increased incentives to take risks, to use resources as efficiently as possible, to introduce new production techniques, and to invest their own capital. Finally, the system gives farm families a semblance of control over a piece of land and, to a certain degree, over their economic lives. This control provides farm families with pride of stewardship, something which had been denied them for nearly three decades.

The new energy provided by the household contract system was channeled by various policies to improve the performance of the agricultural sector. The limited specialization policy encouraged farm families expert in raising grain crops to emphasize that type of production. Farm families familiar with their plot of land planted the specific varieties that were most suitable to their conditions.

The policy to promote more balanced growth in subsectors helped farmers skilled in livestock raising and aquaculture to enter those fields either full time or as a sideline activity. Farmers expert in processing food and feed products were encouraged to set up their shops. Commercial and credit policies aided farmers in getting production loans, obtaining inputs, and marketing their output.

### ***Weather Was Favorable***

Generally good weather enabled farmers to reap record crops in 1983. The Northeast region had generally poor years in 1981 and 1982, but in 1983, good precipitation and warm weather in the fall allowed farmers to reap excellent grain and oilseed crops. Growing areas in the North China Plain, like the Northeast region, had adequate precipitation and warm fall weather, enabling farmers to take in record grain, cotton, and oilseed crops.

Heavy rains in the Yangtze River Valley during July brought water levels in the river dangerously high. There was some minor flooding, and the rains caused some delays in planting and harvesting, but administra-

tors apparently managed to control the surge of water. Cold weather and killing frosts came late to the valley, allowing farmers to harvest crops that had been delayed by the heavy rain and flooding. Record grain crops were eventually harvested by these farmers as well. South China had good weather, and grain crops in this region also scored records.

From north to south, China's agricultural areas span almost 2,500 miles, from a cool temperate climate in Heilongjiang province to a humid subtropical one on Hainan Island. Each year, poor weather reduces crop output in some of these areas. While it is difficult to generalize about weather on a national scale, for most crops it was clearly above average in 1983.

### ***Outlook for 1984: Agricultural Performance and Policy***

China's Government has targeted a 4-percent increase in the gross value of agricultural output (GVAO) in 1984. Crop production is expected to rise slower than the output of other commodities. As in 1983, the gains will come because of specialization and balanced growth policies.

More chemical fertilizer will be available, and farm machinery supplies will increase. In particular, more of machinery suitable for specialized households and those operating under the *baogan* system will be provided. Reforms in the commercial, credit, and transportation systems, and of the commune system itself, should bolster the *baogan* system, which in turn should lead to improved efficiency. More mobility of the labor force, wider tolerance for household specialization, and new production techniques also will aid the sector's performance.

Initial estimates for 1984 put production of most crops close to 1983 levels. The large area shift from grain to other uses that marked 1978-82 appears to have ended, although some shifting of crops between regions will continue. The area sown to various crops will not change substantially from 1983. However, the Government is continuing to encourage greater grain area, and acreage of the major grain crops should expand slightly. Similarly, efforts to discourage production of some crops that are in excess are expected to lead to a small drop in area of commodities such as rapeseed.

The rapid growth in yields that has occurred over the last several years cannot continue. For most crops, yields may be very close to 1983 levels, reflecting slower gains and the less favorable weather so far in 1984.

The direction of national agricultural policy remains unchanged from 1983. The primary task is to improve economic efficiency, with reform as a secondary task. The four major goals for 1984 are outlined in the Communist Party of China, Central Committee, Document Number One, entitled "Circular on Rural Work in 1984." The foremost issue is to implement policies and programs that will improve the household contract system. The next task is to improve economic performance. The third is reform of the commercial system, to "unclog channels of circulation." The final task is to organize production units to increase output.



By the end of 1984, the reform of the commune system should be completed. The program to reorganize communes was formally announced in late 1982, but 1983 was used principally to gain experience in carrying out the program in selected counties. By the end of 1983, only about one-sixth of all communes had been reformed, but plans call for all units to be reorganized by the end of 1984.

The reform consists of separating government from economic functions within the commune system. Government and administrative functions will return to township governments. Communes, brigades, and teams will retain only economic functions. With the shake-up, rural administrators hope that cooperative entities that will integrate agriculture, industry, and commerce will be formed.

Policies to encourage rural households to specialize have become important in the reform of the commune system. Specialized households (*zhuan'yehu*) make contracts with state- or collective-owned enterprises to produce goods or services. These households allocate most of their capital and labor to their production activities and regularly market around 70 percent of their output. By the end of 1983, 24.8 million households, or about 13 percent of the total, were engaged in specialized production. In 1984, the number of households and level of output will likely expand because of policies to ease marketing, transportation, and credit restrictions.

Major changes in the allocation of the rural labor force are being contemplated by China's leaders. Past policies limited labor mobility and forced the rural labor force within the context of the commune system to emphasize crop, especially grain, production. The new policy encourages rural workers to "leave the land, but not the township." Currently, about 90 percent of the rural labor force is employed to raise crops and work in the forestry, animal husbandry, and fishing subsectors. The remaining 10 percent is employed in rural industries, construction, transport, commerce, service, sideline production, and in state-owned factories and mines.

By the year 2000, China's authorities expect only 30 percent of the rural labor force to be engaged in growing crops. Another 20 percent is projected to be employed in forestry, animal husbandry, and fishing. Still another 10 percent is expected to work in state-owned mines and factories. Authorities see the expansion of jobs in rural industries, construction, transport, etc. as a means of providing jobs for the remaining 40 percent of the rural labor force. (*Frederick W. Crook*)

## INPUTS

The rise in overall agricultural performance in 1983 stemmed in part from an increase in the quantity of inputs used and from more efficient use of inputs. During the year, chemical fertilizer use increased 9.7 percent, and rural electric power consumption rose 9.6 percent. Production of large tractors fell, but the output of small walking units rose more than 60 percent. Policy and structural changes gave farmers opportunity to purchase and own tractors, which probably improved efficient use of rural draft power.

The rural credit available to production teams and individual farmers expanded dramatically. Reforms in China's education and agricultural extension systems helped farm families find and use new production techniques. With the widespread introduction of the *baogan* incentive system, farmers now are energetically seeking technical assistance to help them increase output and raise income.

## Chemical Fertilizer Use Rising

In 1983, production and use of chemical fertilizers was up substantially. A total of 13.8 million tons (nutrient weight) was produced, and total use rose to 16.6 million tons, nearly 10 percent above 1982. Use of nitrogen rose considerably, increasing 12 percent, but use of phosphates and potassium was only slightly higher than in 1982, rising 2 percent and 3 percent, respectively. Application of compound fertilizers, which are just beginning to be developed, rose 26 percent in 1983.

Problems with the fertilizer sector have emerged in recent years. One critical problem has been fertilizer effectiveness and balance in production. Lack of phosphorous and potassium limits the effectiveness of nitrogen in some areas. In some cases, the imbalance has reached the point that it is reported the addition of more nitrogen to the soil actually reduced yields. Some phosphate and potassium fertilizer is imported, but supplies still fall short of demand.

In addition, the quality of fertilizer produced in many small-scale plants is poor. China reports that it loses 1 million tons of nitrogen each year to volatilization during shipping. Finally, the fertilizer distribution system is inefficient. The allocation methods used by the Government direct supplies to producers with high yields, and these farmers may realize only relatively small production gains from increased applications.

Nitrogen production was 11.1 million tons in 1983, up 8 percent from 1982's 10.2 million. Development of phosphate and potassium has been stressed during the last 5 years, but this program is yet to have any major effect on the imbalance between the types of fertilizers. Phosphate production reached only 2.7 million tons in 1983, and potassium output remained very small, only 29,000 tons (table 2).

Until more phosphate and potassium are available, only limited amounts of the more effective compound fertilizers can be produced. Increased production and imports of phosphate and potassium will continue to be emphasized in 1984. Construction of a new nitrogen-phosphate plant imported in 1978 is being accelerated. Preparations are also underway for a potash plant with a 100,000-ton-a-year capacity, which will be completed in 1987. Priority will be given to opening eight new phosphate and four new pyrite mines during the coming year. Developing more compound fertilizers will be a primary focus of China's future fertilizer development policy. (*Carolyn L. Whitton*)

## Small Tractors and Rural Electricity Up

In the past few years, a dramatic shift has occurred in the kind of tractors being manufactured and in the own-



**Table 2.—Major manufactured farm inputs, 1980-83**

	Unit	1980	1981	1982	1983
Yearend stocks					
Large-med. tractors	1,000 no.	745	792	812	841
Hand tractors	"	1,874	2,037	2,287	2,750
Power-driven pumps	1,000 hp.	74,654	74,983	76,697	78,492
Machinery production					
Large-med. tractors	1,000 no.	98	53	40	37
Hand tractors	"	218	199	298	498
Internal combustion engines <sup>1</sup>	1,000 hp.	25,390	20,840	22,960	28,990
Rural electric consumption <sup>2</sup>	Mil. kWh	32,080	36,900	39,690	43,520
Fertilizer output <sup>3</sup>	1,000 tons	12,321	12,390	12,781	13,789
Nitrogen	"	9,993	9,857	10,219	11,094
Phosphate	"	2,308	2,508	2,537	2,666
Potassium	"	20	26	25	29
Chemical pesticides	"	537	484	457	331

<sup>1</sup>Total national production. <sup>2</sup>Not all for agricultural production. <sup>3</sup>All figures in effective nutrient weight.

Sources: Various annual SSB Communiques; *China Stat. Yearbook, 1983*, pp. 197, 186; *China Ag. Yearbook, 1982*, p. 79; and *China Stat. Abstract, 1983*, p. 43.

ership and control of farm machinery. Before 1979, farm families were prohibited from owning tractors. The new rural policies lifted these restrictions, and individuals were permitted to purchase tractors. By the end of 1983, 43 percent of all tractors in use were privately owned; 29 percent were owned by production teams but contracted out to households; and only 28 percent were owned by state or collective farm machinery stations.

Year	Number of tractors owned by farmers	Percent of total
1980	38,000	1
1981	384,000	14
1982	991,000	32
1983	1,500,000	43

Fewer large and medium-sized tractors were manufactured in 1983, because farmers working small plots of land under the *baogan* system required hand-guided tractors that were durable, low cost, and small. The farm machinery industry produced 477,600 small tractors in 1983, up 60.1 percent from 1982.

Rural electric consumption in 1983 increased 3,830 million kWh to an estimated record of 43,520 million kWh, a 9.6-percent jump. More irrigation and increased rural industrial output consumed most of the rise. Small rural hydroelectric stations; i.e., those with single generating units not exceeding 6,000 kW, numbered more than 80,000 last year. These small stations now supply about one-third of the electricity consumed in rural areas.

China's farm machine-building industry will gear up in 1984 to produce more small-sized tractors and equipment. The industry will also increase output of manual sprayers and hand tools to meet the demand of farmers working smaller plots of land. The output of electric motors and equipment is scheduled to rise to meet the

requirements of pumping water and processing feed, food, and other agricultural commodities.

In 1984, the demand for electrical power is certain to increase, both because the Government wants to extend service (40 percent of the production teams still do not have electrical power) and because rural industries will expand output. This demand will be met in part by constructing small hydroelectric stations in South China; by altering the work schedules of commune and brigade industries to work when the power load is lowest; by reducing the number of rural industries that use large amounts of energy, such as small iron and aluminum plants; and by constructing large generating facilities, such as the Gezhouba project on the Yangtze River.

### Improved Education and Extension Systems

The agricultural extension system is in the process being reformed. Before the *baogan* system was implemented and the commune system was reformed, county and commune governments had the primary responsibility for extension service. Now households under the *baogan* system have the incentive to apply technology to raise yields, and the impetus for technological change is shifting from downward organizational pressure to farmers' upward reach for technology.

Peasant enthusiasm to learn new production techniques should yield positive results. Peasants in about 25 percent of the communes have organized scientific mutual aid societies. Households are beginning to sign contracts with technicians who agree to provide advice to farmers in return for a share of the increase in production. This system increases incentives for technicians and extension workers, many of whom had begun to turn to more profitable work. For example, about 860,000 agri-technicians were trained in 1981 and 1982, but because of low pay and poor working conditions, 58 percent of them left and entered other jobs.

The rebuilding of the education system continued in 1983. By the end of the year, 60 agricultural universities and colleges had opened their doors to some 70,000 undergraduate and 2,000 graduate students. Thousands of students are now being trained in various subjects in universities and research institutes in foreign countries, including about 12,000 students in the United States.

Furthermore, secondary schools are beginning to graduate students who are better trained to handle the rigors of higher education than were those who attended school during the Cultural Revolution, when the study of politics was emphasized. In 1980, there was one college-trained agricultural scientist and technician per 10 communes (150,000 persons and 18,400 hectares), and one locally trained agricultural technician for each 330 hectares of arable land. In spite of these impressive gains in education, there is still only one agricultural advisor per 13,300 farmers. (*Frederick W. Crook*)

## AGRICULTURAL PRODUCTION

### Grain

#### 1983 Crop Hits a Record

A record 387.28 million tons of grain was harvested in 1983, up 9.6 percent from 1982 (table 15). Grain output

since 1978 has risen 27 percent, and the 1983 outturn was well above the 1985 plan target of 360 million tons. In China's statistical reporting system, total grain includes wheat, rice, coarse grains (corn, sorghum, millet, barley, and oats), other miscellaneous grains (such as buckwheat and rye), pulses, tubers (converted to a grain-equivalent weight using a 5:1 ratio), and soybeans.

Planners concerned about a 6-percent drop in grain area between 1978 and 1982 were apparently successful in efforts to regain ground. Area sown to grain rose an estimated 1.1 million hectares to 114.5 million last year (table 15). Yields reached 3.38 tons per hectare, up 8 percent from the 1982 record.

Wheat production reached a record 81.39 million tons in 1983, 12.97 million above 1982 and a 19-percent increase. Area sown to wheat, which peaked in 1979 and then fell 5 percent by 1982, increased 660,000 hectares to 28.6 million. Wheat yields rose an incredible 18 percent from 1982.

Winter wheat output, which accounts for about 90 percent of the total, was up, partly because of above-normal spring precipitation over large portions of the North China Plain. Good weather in growing areas in the Yangtze River Valley also boosted output. Spring wheat output was up because of good weather in Heilongjiang and the provinces in the Northwest region. Improved incentive packages and rural reforms also contributed to the rise in production.

Farmers harvested a record 169-million-ton rice crop, a 4.7-percent increase from 1982. Area expanded 240,000 hectares, a small advance from 1982, but it was well below the 36.2-million-hectare record of 1976. Yields, at 5,071 kilograms per hectare, were about 4 percent above 1982.

Preliminary reports from China indicated a drop in early rice production because of heavy spring rains. The major damage from heavy precipitation occurred in the middle reaches of the Yangtze River Valley. Area sown to the early crop increased slightly, and yields were about the same as in 1982.

The output of fall-harvested rice increased substantially, which compensated for the reduced growth of early rice. Area sown to the fall-harvested crop increased 190,000 hectares. The weather in fall 1983 was particularly fortuitous, especially considering that heavy rains and flooding in the summer delayed the planting of the fall crops. Warm weather persisted well into the fall in the major rice-growing regions, allowing crops time to mature properly.

The early crop is harvested primarily in June and July, while the fall crop, which consists of intermediate, single-crop late, double-crop late, and northern rice, is harvested primarily during August through November. Figure 1 highlights the link between fall weather and China's rice crop; 68 percent of the area and 66 percent of total rice output is harvested in the fall.

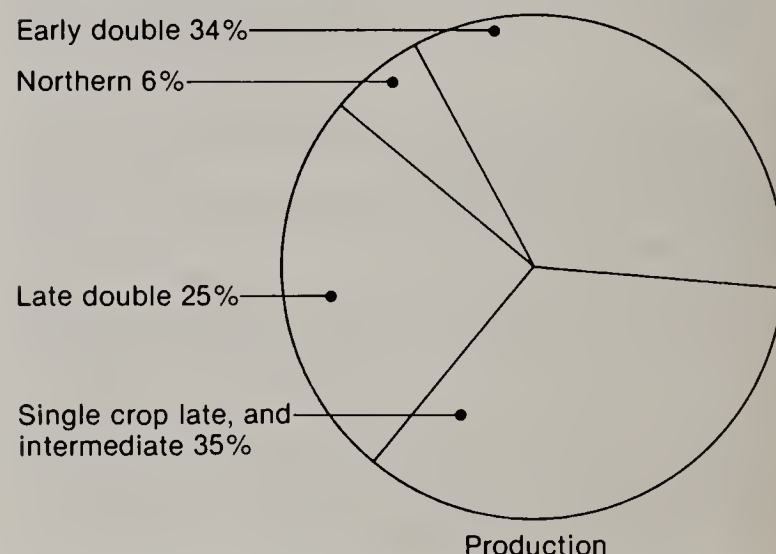
Hybrid rice varieties have contributed heavily to raising yields in the past few years. Area sown to hybrid rice expanded by more than 1 million hectares in 1983, and yields increased 18 percent to 6.75 metric tons per hectare.

Coarse grain production reached a record 93 million tons, an 8-percent increase from 1982. Area sown to coarse grains is estimated to have expanded only 100,000 hectares to 30.64 million. However, good summer and fall weather and other factors pushed yields to a record 3.04 tons per hectare.

Corn yields have risen rapidly in the last 5 years. Yields in this period (1979-83) increased at an average annual rate of 4.8 percent, compared with the long-term growth rate of 3.3 percent (1952-83). Expanded irrigated area in the North China Plain contributed much to the rise in yields. Also, the greater use of hybrid varieties added to the improvements. Area sown to hybrid corn expanded

Figure 1

### Composition of China's Rice Crops



USDA

**Table 3.—Hybrid rice: Area and yields, 1976-1983**

Year	Area	Yields
	1,000 ha.	Metric tons/ha.
1976	1,330	NA
1977	2,180	NA
1978	4,330	NA
1979	5,000	NA
1980	5,200	NA
1981	5,140	5.17
1982	5,600	5.70
1983	6,660	6.75

NA = Not available.

Source: ERS files.

**Table 4.—Primary corn-producing provinces, 1981**

Rank	Province	Production	Area	Yield
		1000 tons	1000 ha.	tons/ha.
1	Shandong	7,940	2,201	3,607
2	Hebei	6,475	2,285	2,834
3	Sichuan	5,940	1,790	3,318
4	Liaoning	5,820	1,268	4,590
5	Jilin	5,275	1,551	3,401
6	Henan	4,805	1,697	2,831
7	Heilongjiang	4,415	1,577	2,800

Source: China Ag. Yearbook, 1982, p. 37.



from about 33 percent in 1971 to well over 75 percent by 1983. For example, by 1981 many major producing provinces had well over 75 percent of their corn areas in hybrid stands.

### ***Small Rise Likely for 1984 Grain Crop***

Total grain output for 1984 is forecast to reach 390 million tons, a 0.7-percent increase. Area sown to grain is expected to rise 500,000 hectares to 115 million, and several factors will be at work to raise yields. Supplies of inputs—such as chemical fertilizers, plastic sheeting, and farm machinery—will increase. Also, the *baogan* system will continue to improve management and resource allocation, which will raise grain yields in 1984 and perhaps for several years to come. However, the positive effect of these factors will likely be offset by a return to more normal weather in 1984. Consequently, 1984 yields will increase very little.

Area sown to wheat in 1984 is estimated to increase 500,000 hectares to 29.10 million. Planting conditions in fall 1983 were generally good, except in some areas excessive precipitation delayed planting. By May, precipitation in the growing areas of the North China Plain was well below normal. Therefore, farmers in this area probably won't see a repeat of 1983's exceptional weather. Total yields are expected to decline about 3.5 percent, and the wheat crop should be a very respectable 80 million tons, only 2 percent below 1983.

Rice production could rise marginally from 1983. A slight increase in area is expected from 1983's 33.3 million hectares. Two forces are expected to expand area. First, government policy continues to emphasize grain production, and farmers are being exhorted to at least hold grain area stable, if not to increase it. Second, some increase in area will come from farmers who, seeking to expand income, are beginning to use newly developed short-season varieties to double-crop their paddy fields.

Since agricultural reform began in 1979, rice yields have increased at an average annual rate of 4.2 percent, compared with the long-term rate of 3.2 percent from 1964 to 1983. Yields in the last 2 years have risen substantially faster than the average. New rice varieties, especially high-yielding hybrids that have a short growing season, have contributed to the growth of late rice yields, but exceptionally good weather has also been important. Unless China has its third consecutive year of very good weather, yields are not likely to rise again this year.

Coarse grain output is forecast to rise 2 million tons to 95 million in 1984. Sown area is expected to increase 360,000 hectares to 31 million. Yields have been rising over the past few years, and the trend should continue this year. However, weather may not be as good as in 1983, especially in the more volatile Northeast region and North China Plain. The net result: Yields could rise about 1 percent.

Barley production may be increased in the next few years to supply breweries and feed mills. Domestic demand for beer prompted increases in beer output, from 390,000 tons in 1978 to 1.63 million in 1983. By 1985, authorities plan to increase beer output to 2 million tons. Barley is grown in the winter wheat areas of Jiangsu, Sichuan, Anhui, Hubei, and Zhejiang.

### ***Grain Imports Down in 1983/84, But May Rise in 1984/85***

Combined wheat and coarse grain imports for 1983/84 (July/June) are estimated at about 10.5 million tons, 5.2 million below the previous year. Record grain crops, increased procurements, and more interprovincial transfers of grain have apparently filled a greater portion of consumer demand than before, reducing import requirements.

Wheat imports fell from 13 million tons in 1982/83 (July/June) to an estimated 10 million in 1983/84. The decrease was spread rather evenly among the suppliers, except that Australia doubled its share while the European Community's (EC) share was reduced considerably. U.S. wheat exports declined to 4.2 million tons in 1982/83, and fell further to an estimated 3.4 million in 1983/84, a drop of 19 percent. From 1981/82 to 1983/84, U.S. shipments of wheat declined 59 percent.

Total imports of coarse grains fell from 2.7 million tons in 1982/83 (October/September) to an estimated 500,000 in 1983/84. Argentina, Canada, the EC, Thailand, and the United States shipped coarse grains in 1982/83, but only Thailand (corn) and Canada and the EC (barley) remained in the market this year. Whereas the United States shipped 2.2 million tons in 1982/83, no U.S. corn has been sent to China so far this year.

China's exports of coarse grains are increasing this year. Japan already purchased 100,000 tons, an amount equal to the previous year's total coarse grain exports.

Total wheat and coarse grain imports for 1984/85 are forecast to rise slightly. China's demand for wheat and corn will continue to grow because of rising population, income, and livestock feeding. But the large stocks that have been built up following 2 years of record crops will continue to depress import requirements. Consequently, imports will be well below previous peaks. (*Frederick W. Crook*)

## **Oilseeds**

### ***Output Growth Slowed in 1983***

The growth of oilseed production slowed sharply in 1983, although total output rose from 27.08 million tons in 1982 to 28.62 million, an increase of about 5.7 percent (table 16). The slowdown stemmed from weather problems, particularly for rapeseed, and government efforts to curb the growth of output, which had risen by an annual rate of 13.3 percent between 1978 and 1982. The rapid growth had created large stocks in some areas of the country, particularly in central and northeastern China.

Much of the growth in oilseed output was a result of a large increase in cotton production. Total oilseed area in 1983 was actually down roughly 500,000 hectares, despite larger cotton area. Soybean and rapeseed areas were both lower. The 1983 rapeseed crop dropped to 4.287 million tons, 1.36 million tons or roughly 24 percent less than the previous year (table 16). Area of the 1983 crop was down 267,000 hectares. The reduction in area was much smaller than China's original plan, which



called for a decline of 600,000 hectares in order to help bring overall oilseed output down 1.5 million tons. In fact, the area reduction contributed only about 25 percent of the total decrease in rapeseed production. Lower yields caused by poor weather along the Yangtze River were mainly responsible for the other 75 percent.

Policy steps to discourage production included limiting government purchases to amounts set in the procurement quotas and the change in the pricing system for rapeseed, which lowered the average farm price. While farmers were allowed to market the rapeseed left over after state procurement plans had been met, they could not expect high prices on the free market.

The 1983 soybean crop rebounded from the previous year's lower yields and reached 9.76 million tons, about 8 percent above 1982 and close to 1956's 10.2 million tons. Area dropped almost 5 percent, largely because Heilongjiang province shifted some soybean area back to corn. This reversed a weather-induced shift from corn to soybeans in 1983. However, record yields offset the drop in area. Exceptionally good yields were registered in Heilongjiang, Jilin, and Liaoning provinces, the major soybean-producing region. Gains in this region outweighed problems due to a fall drought in Shandong and Hebei provinces.

Peanut production in 1983 was up from the previous year by about 1 percent and reached a record 3.95 million tons. Spring flooding in Guangdong and summer drought in Shandong, China's largest peanut-producing areas, raised fears about the size of the crop. The flooding in Guangdong did reduce the crop there by nearly 20 percent; however, the drought in Shandong did not decrease production. Shandong reported an increase of 90,000 tons from the previous year's 1.4 million. These changes were nearly offsetting.

Cottonseed output rose nearly 2.1 million tons from the previous year's record 7.19 million, almost a 29-percent increase. The majority of cottonseed meal is used for fertilizer, largely because it contains toxic materials. Recently, a series of new cotton varieties were bred by local scientists and reportedly contain no toxic materials. Nevertheless, these new varieties will be planted on an area of only 10,000 hectares in 1984.

Sunflowerseed production in Nei Monggol and Heilongjiang, the two major producing provinces, has been leveling off, and in 1983, they reported only marginal gains. Heilongjiang's 1984 agricultural production plan calls for a further reduction in the sunflowerseed area.

Despite the significant increases in the production of cottonseed and soybeans, the reduced outturn of rapeseed and other oilseeds caused lower total oil production for 1983/84 (October-September). Estimated per capita availability of edible oil from all sources still exceeded 4 kilograms, although it was about 4 percent lower than that of the previous year (table 16). Availability was still more than 70 percent greater than in 1978. Meal production from all sources added up to 10.2 million tons in 1983, slightly higher than the previous year.

The large gains in oilseed production during the last several years reportedly have pushed stocks of soybean

and rapeseed oil quite high. Imports of soybeans are expected to be zero again in 1983/84 (September-August), the second consecutive year without imports. Soybean imports are also estimated to be negligible.

Exports of soybeans for food use, largely to Japan, are expected to reach 350,000 tons in 1983/84, up from 280,000 in 1982/83. Exports of peanuts are projected to be the same as the previous year's 100,000 tons.

Finally, exports of soybean meal to some Asian countries have increased dramatically in recent years. China has now begun shipping some meal to Europe—estimated at more than 100,000 tons in 1983. Total soybean meal exports in 1983 likely totaled 540,000 tons, up from only 17,000 in 1977. The rise in meal exports is largely due to the recent surge in domestic oilseed production.

### ***Outlook for 1984: Still Slow Growth***

The outlook for oilseed production in 1984 is for a second consecutive year of very slow growth, and possibly a decline for the first time in 6 years if the weather turns out to be worse than in the last few years, or if the drop in area is larger than expected. Production of all major oilseeds is projected to about equal that of 1983. Aggregate area will likely show a small decline this year.

Despite overall slow growth, a 10-million-ton soybean crop, the first since the 1950's, is possible in 1984. The 1984 production plan for Heilongjiang calls for cutting area by approximately 67,000 hectares. This decline in area, compared with last year's reduction of almost 500,000 hectares, is relatively small and should be offset by small increases in acreage in other provinces. Soybean yields could about equal those of last year, with declines from 1983's exceptionally good yields in the northeast offset by increases elsewhere.

Rapeseed area should decline again, as the planners continue efforts to reduce excess production in central China. However, yields will likely be higher. Assuming yields equal to the 1982 level, the crop would be slightly above that of last year. Peanut production in 1984 is expected to increase only marginally from this year's 3.95-million-ton crop. Higher yields will be the source of this increase; area should be about the same as last year.

Slightly smaller sunflower area is expected this year. Heilongjiang, a major producer, has reported a planned reduction of about 20,000 hectares. But a small increase in yields should keep production at last year's level. Cottonseed production is expected to be off only marginally from 1983, despite a lower estimated area.

Exports of soybeans for food use to Japan and other Asian countries will likely remain at about 350,000 tons. China is not expected to import either soybeans or soybean meal again this year. Peanut exports should also stay about the same as in the last 2 years—100,000 tons.

The rapid increases in soybean meal exports of the last few years may begin to level off, although exports to Western Europe could still show some growth. China is expected to try to maintain its markets for meal in Asia, particularly Hong Kong, for which it is now virtually the sole supplier. Meal exports are projected around 550,000

tons, slightly above the previous year. Sizable Chinese soymeal exports may be a relatively short-term phenomenon. In the longer run, expansion of the live-stock sector is expected to fully use China's soymeal production. (*Francis C. Tuan*)

## Cotton

### **1983 Crop Made Fourth Record; China Became an Exporter**

Cotton reached its fourth consecutive record in 1983, more than double 1979 (table 16). Area increased slightly, despite state plans to hold it at about 5.7 million hectares. All of the area increase occurred in northern China. Government plans, reinforced by bonus prices, encouraged the expansion of area in this region.

Higher yields were responsible for the majority of the growth in output. Yields rose about 25 percent to an estimated 773 kilograms per hectare because of increasingly widespread use of the household contract system, plastic sheeting, and improved varieties. Plastic sheeting conserves soil moisture and raises soil temperature. Yields in the North China Plain rose so much that average yields there now nearly equal averages in the Yangtze Valley.

During the past 4 years, cotton production has risen more rapidly than consumption, reducing import demand and pushing stocks above normal. With sales and production of synthetics rebounding, use of raw cotton off, and production of raw cotton rising dramatically again in 1983, ending stocks in 1983/84 are expected to reach the highest level in many years. Although very little is known about the actual amount of cotton on hand, stocks are estimated to be as high as 50 percent of consumption, compared with the 18 to 20 percent that China's textile officials consider normal.

To alleviate its stock problems, China began a dramatic, but probably short-term, rise in cotton exports in 1983/84. Exports are expected to reach 600,000 bales this season, six times the exports in the previous season (table 21). But it takes time to develop a position as a new exporter, so 1983/84 exports will have only a small impact on stocks. Cotton is mainly being exported to Hong Kong, Japan, and Thailand.

Cotton imports in 1983/84 have continued the rapid decline of the previous year, falling to only about 200,000 bales, 80 percent less than in 1982/83 and well below the 1979/80 peak of 4.1 million bales. Extra long staple cotton from Egypt and Sudan now accounts for the majority of imports. Imports of U.S. cotton have been negligible for the second consecutive year (table 22).

### **Textiles: Cotton Use Down**

The value of textile industry output grew 10.3 percent in 1983, compared with only 1.3 percent in 1982. The major contributing factor was a substantial expansion of chemical, synthetic, and blended-product output. Mill consumption of cotton declined.

Excessive stocks of synthetic textiles had built up in 1982. In January 1983, the price of synthetic textiles was lowered an average 30 percent, and the price of pure cotton textiles was raised an average 20 percent. Demand for synthetic fabrics then increased, sales improved, and stocks dropped dramatically. In June 1983, stocks of synthetic and blended cloth were reportedly only 15 percent of the production of these fabrics. Ultimately, the 1983 plan for production of blends was revised upward twice, increasing 35 percent from the original target. At the same time, cotton cloth stocks grew, reaching 46 percent of cotton fabric production.

### **Continued Oversupply Expected in 1984**

Cotton production in 1984 is expected to be off only marginally from its 1983 record. Area may drop somewhat due to the new procurement pricing system (see box). However, the same forces that pushed yields up in the last several years will continue to affect them in 1984. Although the effects of the household contract system and specialization may begin to level off in 1984, the effect of plastic sheeting and new varieties should be greater. With production still high, the serious oversupply situation will remain.

Plans for the textile industry call for decreased emphasis on output expansion and more on improving efficiency, management, and the quality and variety of products. Demand for synthetic and blended fabrics will likely continue its recent growth because of the fabrics' easy-care quality. Meanwhile, demand for pure cotton fabrics may

**Table 5.—Major indicators of textile production, 1980-83**

Item	Unit	1980	1981	1982	1983
Yarn	Million tons	2.926	3.170	3.354	3.270
	Million bales <sup>1</sup>	<sup>2</sup> 16.286	17.580	18.680	NA
Cloth	Billion meters	13.470	14.270	15.350	14.880
	Billion square meters	12.800	NA	14.920	14.710
Chemical fabric	Billion meters	NA	NA	(4.800)	5.360
Chemical fibers	Thousand tons	450.300	527.300	517.000	541.000
Synthetic fibers	Thousand tons	314.100	384.700	375.300	NA
Silk	Thousand tons	35.400	37.400	37.100	NA
Silk textiles	Million meters	795.000	835.000	914.000	999.000
Woolen piece goods	Million meters	100.950	113.080	126.690	143.000

NA = Not available. ( ) Indicates derived from percentage increase. <sup>1</sup>A bale of yarn weighs about 179 kgs. <sup>2</sup>FB 2/19/81, p. L-9.

Sources: *China Stat. Yearbook, 1983*, p. 223; *China Stat. Abstract, 1983*, p. 40; and annual SSB Communiques, except as otherwise noted.



remain stagnant. Production of synthetic fibers is also expected to continue growing as more plants become operational in 1984. The prices of cotton and synthetic fabrics have not been further adjusted for 1984, so the improved relative price of synthetics and blends will also continue to influence the structure of domestic demand for textiles this year.

Cotton rationing ended in December 1983, granting individuals the freedom to purchase as much cotton and textiles as they wish for the first time since 1954. Unrestricted cotton purchases may not help, because in recent years the cotton ration wasn't very restrictive. In addition, the current desire for improved-quality textiles and the higher prices for cotton products favor increased demand for synthetics and blends.

With the oversupply of cotton, imports will remain minimal, and China will continue to export cotton in 1984/85 and for several years thereafter. Stocks will likely be drawn down gradually over the next several years and large amounts aggressively marketed whenever possible. Efforts are now underway to improve marketability by standardizing quality and bale size. Meanwhile, active expansion of cotton storage capacity is also underway.

China probably will not become a major cotton exporter on a long-term basis. In the long run, it will likely

prefer to export its cotton as textile products rather than raw material. Textiles now account for about 25 percent of total exports. In general, policies are oriented toward providing mainly for its own domestic industry and earning foreign exchange. It will likely return to these goals as soon as the excess stocks have been drawn down. (Carolyn L. Whitton)

## Livestock

### Expansion Slowed in 1983

The pace of expansion in China's livestock sector slowed in 1983, particularly in terms of total meat output and yearend livestock inventories. The feed industry has expanded rapidly in the last 2 or 3 years, but the quantity of grains processed for feed use still accounts for only a small portion of the total grains fed to livestock.

Factors that retarded the growth of the livestock sector after 1980 continued to hinder development in 1983. Institutional problems, such as cuts in procurement quotas in local areas and eliminating bonuses awarded for sales of fattened hogs, lowered incentives. Economic and marketing constraints—for instance the lack of cold storage and the inadequate distribution and transportation systems—also restrained growth. Extension programs and research on better feeding and breeding techniques were still below par.

## New Cotton Procurement Pricing System

Beginning with the 1984/85 season, administrators have simplified the procurement pricing system for cotton. For each ton of cotton sold, the producer will receive a single price that is the weighted average of the quota and above-quota prices. Each cotton producer will receive the same price as all other producers in the same locality. In addition, the 5-percent incentive bonus for northern producers has been abolished.

Under the new pricing system, the northern producer will still receive a higher price than the Yangtze Valley producer. In the North, the new price will be a weighted average of 20 percent quota price and 80 percent above-quota price. In the Yangtze Valley, it will be 60 percent quota price and 40 percent above-quota price. Prices will be higher in the North to promote movement of cotton area from the wetter, less suitable climate in the Yangtze Valley to the drier, more traditional production regions in the North China Plain.

Under the old pricing system, a different compulsory sales quota was fixed for each production team, based on average sales during 1976-78. For purchases under quota, each production team was paid the so-called quota price. A 5-percent bonus for northern producers was added to the quota price. After each unit met its quota, all additional cotton sales were eligible for the 30-percent higher above-quota price. Inequities occurred because some units had low quotas, so larger proportions of their crop received the above-quota price. Each producer's overall average income then differed.

Since the Government is the sole purchaser of cotton, its average payments for cotton rose dramatically during the last 4 years, placing serious strains on the budget.

With fixed quotas, each increase in production placed more of the total crop in the above-quota price category, raising government outlays.

The new procurement price system is expected to stem the upward creep in the average price paid for cotton. Price weights are fixed, so producers will receive about the same income as in 1982. On average, northern producers will receive a slightly lower price for 1984 cotton than for the 1983 product, but other producers will receive a slightly higher one.

Regardless of how average prices compare, the new price for increased output will be less than the old above-quota price—9 percent less for northern producers and 14 percent less elsewhere. This will discourage further expansion of area by new producers and may even reduce the area of relatively new producers, whose old fixed quotas were low and were therefore receiving mostly or entirely above-quota prices. However, only a small effect on area is expected. (Carolyn L. Whitton)

**Table 6.—Cotton procurement prices, 1979-82**

Year	Quota price	Average price paid
Yuan per ton <sup>1</sup>		
1979	2655	2680
1980	2922	3174
1981	2956	3116
1982	NA	3236

NA = Not available.

<sup>1</sup>Two yuan are approximately equal to \$1.

Sources: *China Ag. Yearbook*, 1980, p. 380; *Ag. Econ. Handbook*, p. 743; and *China Stat. Yearbook*, 1983, p. 480.



Total meat output—including pork, beef, and mutton—grew only 3.8 percent, but it still reached a record 14.02 million tons in 1983 (table 18). This growth was much slower than the average annual rate of over 15 percent for the last 3 years of the late 1970's.

The slowdown of the growth rate was largely attributable to slower expansion in the hog subsector, which accounts for more than 90 percent of China's red meat total. Two reasons were reportedly responsible for the slow expansion in pork output. First, in many places livestock raising has been neglected and resources have been shifted to more profitable crop production. Secondly, urban residents are now demanding lean pork, which requires farmers to feed hogs to lighter slaughter weights in order to obtain a higher ratio of lean pork.

The hog inventory at the end of 1983 decreased to 298.54 million head, down slightly from the previous year (table 17). The number of hogs slaughtered, however, increased again, reaching 206.6 million head. In 1983, the average slaughter weight per hog grew very little. The average weight rose rapidly for 5 years prior to 1983, after more favorable policies on livestock raising were put in effect at the end of 1978.

Yearend inventories of large animals grew 2.3 percent to reach 103.5 million head. This followed 3.6-percent growth the previous year. Large animals include cattle, horses, mules, donkeys, and camels. Before 1982, the number of large animals had stagnated at around 95 million head since the mid-1970's. The rise in the number of large animals in 1983 stems mostly from the second consecutive increase in the number of cattle, which are important draft animals. The demand for draft animals has risen because of the implementation of the household contract system. The demand growth for draft animals is parallel to the significantly higher demand for small or hand-guided tractors.

The Government has vigorously promoted dairy cow raising in recent years. For instance, in Heilongjiang, the raising of dairy cows by individual households has been emphasized, and each household is given 1 to 2 mu of fodder land for each cow being raised. In addition, for every 4 jin of cow milk delivered to the Government, it will supply households with 1 jin of concentrate feed. As a result, in Heilongjiang, the number of dairy cows raised by households accounted for more than half of total cow numbers by the end of 1982. China's dairy cow numbers and milk production are shown in table 7.

The total number of live poultry increased to over 1 billion, a gain of about 200 million since the end of 1979 or the beginning of 1980. The 1 billion figure was disclosed in mid-1983 and is likely the inventory number for 1982. China also revealed data on total egg production for the first time. An estimated 3.25 million tons of eggs were produced in 1983, up 450,000 from the previous year. The 1983 state procurement of fresh eggs increased 7 percent from the 1.09 million tons purchased in 1982.

### Feed Industry Booming

The development of the feed industry, particularly around large cities such as Beijing and Shanghai, has significantly increased feed supplies for urban areas and

**Table 7.—Dairy cow numbers and milk production, 1978-83**

Year	Dairy cows	Cow milk	Total milk <sup>1</sup>
	Head	Tons	
1978	475,000	883,290	971,392
1979	557,000	1,070,188	1,306,756
1980	641,000	1,141,043	1,366,884
1981	698,000	1,291,000	1,549,000
1982	<sup>2</sup> 750,000	1,618,000	1,959,000
1983	<sup>2</sup> 800,000	<sup>3</sup> 1,845,000	<sup>4</sup> 2,295,000

<sup>1</sup>Includes cow, sheep, and goat milk. <sup>2</sup>ERS estimates. <sup>3</sup>SSB Communiqué, 1984. <sup>4</sup>A preliminary estimate by China's Ministry of Agriculture, Animal Husbandry, and Fisheries.

Source: All data from *China's Stat. Yearbook, 1983*, unless otherwise footnoted.

therefore has given a boost to pork and poultry production. According to the statistics disclosed by the Cereals Bureau of the Ministry of Commerce, production of compound feed has tripled in 3 years. The statistics are as follows:

#### Million tons

1980	1.10
1981	1.85
1982	3.15
1983	4.50

Use of compound feed in livestock raising, however, is still very new for the country as a whole, likely less than 10 percent of the total grains fed to livestock. Nevertheless, with the growth of the feed industry and the changes in feed consumption patterns, livestock raising, at least around big cities, has begun to shift from the traditional to the modern way.

The manufacturing of compound feed is expected to continue to grow at a fast pace throughout the 1980's. The grains and protein meal needed for the development of the feed industry will be met largely by domestic supplies, provided China can switch part of its oilseed meal and cakes from fertilizer to feed use. Feed additives such as minerals, antibiotics, and hormones have mainly been imported and will remain that way for some time.

### Outlook: More Slow Growth

Livestock production in 1984 should make steady, but slow growth, similar to that in the previous 2 years. China's planners now recognize that it is not necessary to increase hog inventories in order to raise pork output. Most of the additional grain output available to feed livestock will be used in shortening the feeding period for hogs, and as a result, pork output should rise again in 1984. Since part of the grain available for feed use will enter the feed-manufacturing industry, compound feed production will continue to advance.

Livestock raising around large cities and areas surrounding feed-processing factories is expected to benefit the most. In the long run, persistent improvement in feeding will enable the country's livestock sector to make steady progress. The improvement will push meat output up in the next few years, even though yearend livestock inventories will remain unchanged.

Demand for draft animals may not be as strong as in 1982 and 1983, but it will continue fairly strong. This demand, along with higher use of beef and promotion of dairy cow raising, should boost large animal numbers to another record in 1984, even though the increase will be small. Unless China dramatically shifts its policy to improve grassland, further development of the sheep and goat subsector is unlikely, particularly if procurement prices on goats are not raised.

Milk, poultry, and egg production will all increase from 1983, based on the Government's energetic promotion of household raising of dairy cows and continued expansion of the feed industry. The big increase in these livestock products is expected to occur mostly around large urban areas.

### **Livestock and Product Exports To Rise**

Exports of live animals and livestock products have long been an important part of China's total exports. The export value of livestock and products has accounted for about 5 to 10 percent of total exports in recent years. Quantities of major exported items are shown in table 8.

Exports of live animals and livestock products, except for cattle, should continue to expand. China's exports of live animals to Hong Kong have already captured most of that market, and large increases in this category are unlikely in the future. In addition, the quality of the beef cattle exported to Hong Kong has not been high. Therefore, the number of live cattle sold to Hong Kong is not expected to rise.

The problem of beef quality reportedly is also hindering a possible new trading arrangement with Japan. The total number of cattle exported to Japan in 1984 is not projected to be significant, even if the new trading arrangement is reached.

China is calling for more imports of breeding cattle, as well as breeding hogs. In order to improve milk output and lean pork production, it has indicated an interest in buying good breeding stock from foreign countries, including the United States. Therefore, China's imports of breeding stock are expected to expand. (*Francis C. Tuan*)

### **Other Agricultural Products**

#### **Sugar Production Stagnates**

Production of sugar crops dropped in 1983 because a decline in sugarcane output was not entirely offset by a record beet crop (table 9). Despite this dip, the production of sugar crops has risen 69 percent since 1978. Even

though crop production fell, the sugar outturn from the 1983/84 crops may be up slightly from the 3.85 million tons produced in 1982/83.

Last year's sugar imports, estimated at 1.3 million tons, fell to roughly half the 1982 peak (table 21). Small sugar exports continued, mainly to third world countries. Export quantities have not risen substantially in recent years, even though domestic supplies have increased. The increase in domestic production has been absorbed by growing domestic demand.

In 1984, limited expansion of sugar crop area may occur in some places. In general, the policy will be to continue to expand sugar crop production and further reduce dependence on sugar imports. Emphasis is expected to be placed on improving cane quality and sugar content. While China may continue to import sugar, the volume of imports may drop further. Limited sugar exports will continue.

#### **Tobacco Output Drops**

The controls over tobacco production introduced at the end of 1982 successfully restricted area in 1983. Area of flue-cured tobacco declined nearly one-third, to about 600,000 hectares, from its 1982 peak of 889,000. Therefore, production fell dramatically, as planned (table 9).

Tobacco area will continue to be restricted in 1984, and the strict regulations on tobacco production will be retained. In tobacco production, emphasis is most likely to be placed on improving quality. (*Carolyn L. Whitton*)

**Table 9--Production of other agricultural products, 1979-83**

Product	1979	1980	1981	1982	1983
1,000 tons					
Total sugar crops	24,613	29,113	36,028	43,594	40,323
Sugarcane	21,508	22,807	29,668	36,882	31,141
Sugar beet	3,106	6,305	6,360	6,712	9,182
Sugar	2,500	2,570	3,166	3,384	3,771
Tobacco	941	845	1,497	2,179	<sup>1</sup> 1,400
Flue-cured tobacco	806	717	1,279	1,848	<sup>1</sup> 1,200
Tea	277	304	343	397	401
Jute and hemp	1,089	1,098	1,260	1,060	1,019
Silk cocoons	271	326	311	314	340
Aquatic products	4,305	4,497	4,605	5,155	5,460
Rubber	108	113	128	153	(172)
Fruit	7,015	6,793	7,801	7,713	NA

( ) Indicates derived from percentage increase. NA = Not available.

<sup>1</sup>USDA estimates.

Sources: *China Stat. Yearbook, 1983* and various annual SSB Communiques.

**Table 8.—Exports of livestock and livestock products, 1979-82**

Year	Hogs	Live animals Cattle	Poultry	Eggs	Frozen Pork	Canned	Frozen poultry	Frozen rabbit meat
Thousands			1,000 tons					
1979	2,422.2	187.6	17,460	49.8	44.9	37.1	43.1	43.5
1980	2,468.2	237.4	19,010	52.8	63.8	48.0	43.9	38.6
1981	2,574.2	232.4	21,340	55.1	67.2	49.4	41.8	31.5
1982	2,649.6	223.7	21,640	54.3	96.8	66.6	44.6	40.4

Source: *China Stat. Yearbook, 1983*, pp. 422-424.



## FOREIGN TRADE

### Trade Expanded Again in 1983

China's overall trade rose again in 1983. Exports increased 2 percent to approximately \$24 billion, while imports were up 11 percent to just over \$18 billion. A surplus in the balance of trade was registered for the year. Gold reserves remained steady at 12.67 million troy ounces, the same as the last 2 years, but yearend foreign exchange reserves jumped 29 percent to \$14.3 billion, \$3.2 billion more than at the end of 1982 (table 10).

Much of the growth in exports resulted from improved world market conditions. With the world economy coming out of the recent recession, the demand for China's goods, particularly textiles, expanded slowly.

Growth in imports reflected renewed emphasis on gradually expanding purchases of technology and equipment. These imports had been encouraged in the immediate post-Mao era, but were cut back during the past 2 years, partly to reduce rising trade deficits. Now, a comfortable foreign exchange surplus has developed, and imports of technology and equipment are expanding again.

### Agricultural Trade Expands Slightly

Agricultural trade showed a favorable balance in 1983. Imports dropped considerably, while exports rose.

Agricultural exports reached an estimated \$5.2 billion, 14 percent more than in 1982. Agricultural products accounted for a larger share of total exports, rising from 19 to 22 percent. The majority of agricultural exports are animal and specialized products, but expanded cotton exports also began to appear in 1983 statistics. Soybean exports also rose.

Agricultural imports are estimated to have totaled \$3.7 billion, more than 25 percent below 1982. Agriculture's share of total imports fell from 30 percent in 1982 to only 20 percent. Imports of every major commodity dropped. Grain fell 17 percent to only 12.9 million tons, more than 2.6 million less than in 1982 (table 20). Cotton dropped more than 50 percent, sugar an estimated 35

percent, and soybeans and soyoil to zero (table 21). Reports from Beijing say imports of all edible oils were off 38 percent. This drop in agricultural imports was largely the result of decreased demand due to several years of high domestic production and excess stocks.

### Agricultural Imports Expected To Remain Low in 1984

In 1984, high technology imports will be expanded more rapidly than in 1983. Despite planned increases in total imports, imports of agricultural products will remain low in the next few years. Even if China sharply expands grain purchases in the second half of 1984 to meet its current obligations, total grain imports will probably not exceed the 1983 level. Cotton, soybean, and oil imports will remain negligible, and sugar purchases may fall further.

### New Grain Agreements Expected

The successes in raising grain production well beyond planned levels have created problems on the trade front. With import requirements now down from the levels that had been anticipated, China is having difficulty fulfilling all of its long-term grain trade agreements (table 19). With these agreements now expiring, there are questions about which will be renewed and what form new agreements will take.

One of these long-term grain trade agreements has already expired; that with the EC ended in July 1983 and has not been renewed. Three more—the Argentine, Australian, and U.S. agreements—expire at the end of 1984. The Canadian agreement ends in July 1985.

Since China will likely remain an importer of substantial amounts of wheat and perhaps a growing amount of coarse grains, it will probably be interested in renewing at least some of its long-term agreements. However, since import requirements are now depressed and near-term imports are uncertain, the main push in the upcoming negotiations may be for greater flexibility on a year-to-year basis. This could take the form of seeking a greater range between maximum and minimum amounts in the agreements. As an alternative, China might only

**Table 10.—Trade and reserves, by calendar years, 1979-83**

	1979	1980	1981	1982	1983 <sup>1</sup>
<i>Million dollars</i>					
Exports—total <sup>2</sup>	13,458	18,875	21,496	23,501	24,000
—agricultural	3,612	4,239	4,630	4,557	5,200
Imports—total	14,364	19,180	17,949	16,633	18,400
—agricultural	3,451	5,267	5,048	4,955	3,700
Trade balance—total	—905	—305	3,547	6,868	5,600
—agricultural	161	—1,028	—418	—398	1,500
Foreign exchange reserves	2,154	2,262	4,773	11,125	14,342
<i>Million troy ounces</i>					
Gold reserves	12.80	12.80	12.67	12.67	12.67

<sup>1</sup>Estimated. <sup>2</sup>All values are f.o.b. Data are derived from partner-country reports and therefore sometimes differ substantially from China's official statistics, which, for the 5 years, show exports of: \$13.66, \$18.27, \$20.9, \$20.9, and \$21.9 billion and imports of \$15.67, \$19.95, \$19.10, \$18.0, and \$21.1 billion.

Sources: Data for 1983 trade are based on Central Intelligence Agency, China: International Trade, Third Quarter, 1983, EA CIT 84-001, Mar. 1984. Data for 1979-82 trade are from Central Intelligence Agency, China: International Trade Annual Statistical Supplement, EA 84-10070, Mar. 1984. Data for 1979-82 reserves are from *China Stat. Abstract*, 1983, p. 68, and 1983 reserves were reported in FB 67, 4/5/84, K 22.



seek new agreements with two or three suppliers and rely on market purchases for the balance.

### ***U.S. Trade Off Dramatically in 1983***

Total U.S. trade with China in 1983 fell to the lowest level since 1979 and for the first time in 6 years registered a deficit—\$54 million compared with a \$689 million surplus in 1982. Exports fell 26 percent to only \$2.2 billion, \$741 million less than in 1982 (table 22). Lower agricultural shipments were primarily responsible for the decline, but lower world prices for many goods also contributed. Nonagricultural exports increased about 15 percent, but this was not sufficient to offset the 64-percent decline in shipments of agricultural products. Imports rose less than 1 percent (table 23). Agricultural imports from China were off marginally, but nonfarm purchases rose.

U.S. agricultural exports dropped from \$1.5 billion in 1982 to only \$544 million in 1983 (table 22). Grain exports were off \$700 million, accounting for much of the decline. But about one-fourth of the drop resulted from smaller sales of cotton, soybeans, and oils, all of which fell to negligible amounts. Although virtually all of the drop in exports of cotton, soybeans, and oils was due to lower demand, part of the drop in U.S. grain sales can be explained by the U.S.-China textile dispute.

In January 1983, a stalemate developed in negotiations for renewal of the agreement for U.S. imports of Chinese textiles. With no agreement on hand, the United States then imposed import quotas on these products. In retaliation, China placed an embargo on its imports of U.S. cotton and soybeans and threatened to reduce its purchases of other U.S. agricultural products, which consist primarily of wheat.

U.S. grain exports dropped from 8.5 million tons in 1982 to only 3.8 million, a 55-percent or 4.7-million-ton decline. Shipments fell 2.2 million tons short of the 6-million-ton minimum required under the U.S.-China long-term grain trade agreement for 1983 (table 19). Three factors explain the fall in shipments: lower import demand, the textile dispute, and price cutting by U.S. competitors trying to move their large stocks of wheat. If the United States had held its market share, exports would have dropped by about 1.5 million tons, or \$225 million, because of the fall in total Chinese imports of grain. But the U.S. share of China's grain imports also fell, from 59 percent in 1982 to only 30 percent in 1983. The fall in exports associated with this lower share—about \$480 million or more than 3 million tons—represents the combined effects of price cutting and the textile dispute. The largest part of this \$480 million drop—probably \$300 to \$400 million—is the result of the dispute, because without the dispute China would have bought at least the 6-million-ton minimum.

The United States' total and agricultural imports from China remained about the same in 1983 as in 1982. Total imports rose slightly, from \$2.22 billion in 1982 to \$2.24 billion. Agricultural imports were off slightly to \$168 million, compared with \$170 million in 1982 (table 23). The content of these imports also remained about the same. Total imports were largely textiles and

clothing, and agricultural imports consisted of a variety of specialized products, such as feathers and down, bristles, spices, honey, and tea.

### ***Trade With U.S. To Rise in 1984***

As China's high technology imports expand in 1984, U.S. exports to China will also grow. However, U.S. imports of Chinese agricultural products will likely continue at about the same level as in the previous 2 years.

U.S. exports of agricultural products, particularly grain, are expected to rebound in 1984. Even if China does not fulfill the precise terms of the U.S.-China long-term grain trade agreement, the U.S. share of the China grain market is expected to return to more normal levels. A new 5-year U.S.-China textile agreement was signed August 19, 1983. The agreement is retroactive to January 1, 1983. This agreement settled the dispute and eliminated China's retaliatory reductions of purchases of U.S. agricultural products. China is now attempting to distribute its 1984 grain purchasing more evenly among all its suppliers and still meet all its long-term agreements.

But will the U.S. grain trade agreement be fulfilled? On several occasions since the end of November 1983, China's leaders have assured U.S. officials that the 1983 shortfall in grain exports will be made up in 1984 and that purchases of U.S. grain for 1984 will reach the 6-million-ton minimum for that year as well. However, by mid-May only 3.3 million tons had been contracted for delivery in 1984, still well short of the 8.2-million-ton combined requirement. Apparently, one of the important considerations in the slow pace of buying was China's perception that U.S. wheat prices remained above those of other suppliers. The pace of purchasing will pick up as the 1984 U.S. crop is harvested and prices begin to fall. But the main problem seems to be continued low import requirements.

Even as the pace of purchasing improves, the question remains: Can China take delivery of the entire 8.2 million tons before December 31, 1984? Demand for imported grain will remain depressed compared with the amounts purchased before 1983. In view of the approximately 4.5 million tons already contracted from other sources for 1984 and the additional purchases required by the Canadian agreement, China will have difficulty taking the full 8.2 million this year. Purchases of this magnitude will require a 9-million-ton shipment combined from all sources during July-December, nearly a million tons more than the maximum amount shipped in any previous 6-month period. Given China's problems of port congestion and limited available storage, actual shipments are unlikely to reach this level. China will likely be forced to defer shipments from some suppliers into 1985.

U.S. exports of other agricultural products to China will continue to be negligible in 1984 because China's overall import demand for these commodities is negligible. Tiny amounts of U.S. cotton may be exported for blending purposes, as well as some livestock products and other miscellaneous agricultural items. (*Carolyn L. Whitton*)

# Dramatic Growth of Rural Income

Frederic M. Surls

**Abstract:** Survey data shows a 71-percent growth in real rural income between 1978 and 1982. Expenditures on food are up sharply, but the food share of consumer expenditures has dropped. Higher incomes have created major strains on the marketing system.

**Keywords:** China, consumption, expenditures, income, inflation.

The past 6 years have brought dramatic improvements in living standards in rural China. These improvements have been widely reported both by China's press and by foreign travelers. The quantities and varieties of food and clothing have increased; rural consumers are purchasing an expanding variety of consumer durables, such as bicycles, sewing machines, and radios; and housing construction and renovation is evident throughout the countryside. This picture of rising consumption is a sharp departure from the preceding two decades, during which living standards in rural areas showed little improvement on a national basis and fell sharply in some areas of the country.<sup>1</sup>

The growth of farm income, the sources of income growth, and the accompanying changes in rural consumption can be clearly seen in data provided by Chinese rural income and expenditure surveys. Survey results are generated by detailed household accounts kept by nearly 23,000 designated rural households. Summaries are now being published regularly in China's statistical yearbooks.

Income and expenditure surveys for both the rural and urban sectors began during the 1950's, but they were dis-

continued for much of the 1960's and 1970's. Rural surveys are now available for 1978-82. Urban surveys were not resumed until 1981. While questions can be raised about the accuracy of these surveys, and there are inconsistencies with other consumption data, the general picture they present is probably accurate.

## Income Growth

Average per capita net rural income, as measured by the surveys, rose 93 percent between 1978 and 1982, an average rate of growth of 17.8 percent annually.<sup>2</sup> Consumer prices also rose over the period, as China faced its first inflationary pressure since the early 1960's. But income growth was well in excess of inflation; deflating the income figures by the official retail price index gives a 71-percent increase in real incomes.<sup>3</sup>

The growth of rural incomes during 1978-82 outpaced the income gains of urban dwellers, and the rural-urban income differential narrowed, after apparently widening

<sup>1</sup>Two important new books address in detail many of the issues raised in this and the following article. These are Nicholas R. Lardy, *Agriculture in China's Modern Economic Development*, Cambridge University Press, 1983 and Kenneth R. Walker, *Food Grain Procurement and Consumption in China*, Cambridge University Press, 1984.

<sup>2</sup>Net income presumably refers to total receipts of cash and income in kind (a substantial part of payment from collectives to households is in the form of grain and other agricultural products) minus purchases of inputs. To the extent that households do not net out the use of products received from the collectives or privately raised in producing items that are sold later, the growth of net income is exaggerated, since these activities have been on the rise in recent years.

<sup>3</sup>The retail price index appears to understate the actual extent of inflation for this period.

**Table 11.—Income growth, 1978 to 1982**

Year	Rural sector			Urban sector	
	Retail price index	Average per capita net income	Real per capita income	Average wage	Real wage
	1950=100	Current yuan	1978 yuan	Current yuan	1978 yuan
1978	135.9	133.6	133.6	614.0	614.0
1979	138.6	160.2	157.0	668.0	655.0
1980	146.9	191.3	177.0	762.0	704.9
1981	150.4	223.4	201.9	772.0	697.6
1982	153.3	<sup>1</sup> 257.4	228.1	798.0	707.4

<sup>1</sup>The source below gives a 1982 rural income of 270.11 yuan. This has been adjusted to compensate for a change in the price used for valuing distributions in kind by the collective sector (FB May 5, 1983, p. K16).

Source: *China Stat. Yearbook, 1983R*, pp. 455, 485, and 499.



significantly over the preceding two decades. The average wage paid to workers, which can be taken as a rough proxy for urban incomes, advanced 30 percent between 1978 and 1982. Correcting for inflation gives a real increase of 15 percent for the period. Despite this narrowing of the rural-urban gap, average rural incomes and consumption levels still fell far short of those of urban residents.

### Rural Expenditure Patterns

As incomes have grown, the pattern of expenditures by rural households has changed noticeably. Between 1978 and 1982, expenditures on food dropped from 58.8 to 49.3 percent of income, despite an absolute increase of 69 percent. Expenditures on housing have shown the most rapid growth, soaring 515 percent to 10.3 percent of total income. This figure exaggerates the share of housing, however, since all expenditures on housing, including construction, are counted in the consumption data. This differs from Western accounting practices, which treat residential construction as investment, not consumption.

The shift in the composition of spending on food and other agriculture-related products can also be seen in the data on per capita consumption of individual commodities. While total grain consumption rose only slightly, consumption of what is referred to as fine grain—primarily wheat and rice—increased substantially as rural residents cut back on food use of coarse grains and potatoes (which are counted as grain in China's crop accounting). Consumption of edible oil, red meat, poultry, eggs, sugar, and alcoholic beverages also grew rapidly.

These data also clearly show the gaps that still exist between average rural and urban consumption levels. China's urban consumers have a diet that contains substantially larger shares of meat, eggs, and edible oils, and they purchase greater amounts of other consumer goods.

Two items in the consumption data are somewhat puzzling—the declines in vegetables and textile products, particularly cotton cloth. The ongoing decline in rural vegetable consumption cannot be explained by available data. Average rural consumption of vegetables in 1982 was only 83 percent of consumption in the higher income urban areas, and declining consumption does not fit a normal pattern. The drop in cotton cloth purchases is more understandable. More synthetics were substituted for cotton cloth throughout the period, and purchases of manufactured clothing grew.

### Sources of Income Growth

The impact of China's push for diversification of the rural economy and expansion of household sideline activities is apparent from the income data. While distributions from the collective sector—payment of crops in kind, cash from sale of collectively produced farm products, and wages from work in commune and brigade industries—increased, they slipped to less than half of per capita income.

Income from household sideline production, however, climbed 187 percent to account for nearly 40 percent of household income by 1982. Sideline activities range from

**Table 12.—Rural expenditures by category, 1978 and 1982**

Item	1978	1982 <sup>1</sup>	Change
	Yuan/capita		Percent
Food	78.6	133.2	69.5
Clothing	14.7	24.8	68.1
Fuel	8.3	12.4	49.3
Housing	3.7	22.6	515.3
Other commodities	7.6	22.4	193.8
Service, education	3.2	4.9	56.0
Total	116.1	220.2	89.8

<sup>1</sup>The official expenditure data for 1982 are used. No adjustment for price change is possible (see note, table 11).

Source: *China Stat. Yearbook, 1983*, p. 501.

**Table 13.—Consumption of major commodities, 1978 and 1982**

	Unit	Rural		Urban
		1978	1982	1982 <sup>1</sup>
Grain				
Rough weight	kg	248.00	260.00	NA
Fine grain	kg	122.50	192.00	144.56
Vegetables	kg	141.50	132.00	159.08
Edible oil	kg	1.97	3.43	5.78
Meat, red	kg	5.76	9.05	18.66
Meat, poultry	kg	.25	.78	2.26
Eggs	kg	.80	1.43	5.88
Seafood	kg	.84	1.32	7.67
Sugar	kg	.73	1.19	2.80
Alcoholic beverages	kg	1.22	2.73	4.48
Cotton cloth	meters	5.63	3.94	4.24
Synthetic fiber cloth	meters	.41	1.53	.67
Shoes	pairs	.32	.48	.48
Consumer durables, yearend stock per 100 households				
Bicycles		30.73	51.50	146.65
Sewing machines		19.80	32.76	73.60
Radios		17.44	50.46	103.04
Wrist watches		27.42	68.09	248.89
Television sets		NA	1.68	73.31

NA = Not available.

<sup>1</sup>Urban and rural data are not fully comparable. The coverage of items such as vegetables and shoes appears to be different. In addition, urban consumption likely excludes away-from-home consumption of items such as grain.

Source: *China Stat. Yearbook, 1983*, pp. 496 and 502.

crop production on private plots to livestock raising, handicrafts, and individual services, such as construction and transportation. These have benefited from fewer government restrictions and the reopening of rural markets, as well as from higher prices for many household-produced commodities. Also, production activities once handled by the collective sector, most notably livestock raising, have now shifted into the household sector. Sideline activities, along with miscellaneous receipts, account for the major share of cash income, so rural purchasing power has risen even more rapidly than total income.

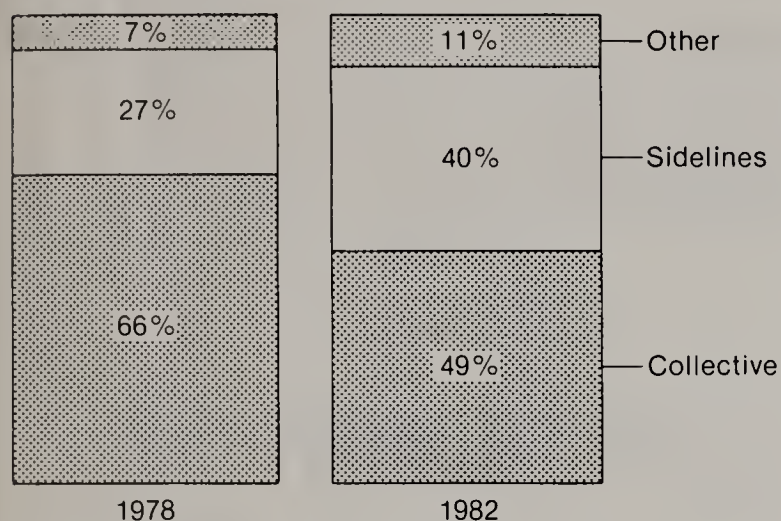
### Consequences of Income Growth

The growth of incomes has provided a welcome boost to the standard of living of the Chinese people. But it has



Figure 2

## Sources of Rural Income



Source: China Stat. Yearbook, 1983, p. 499.

also generated severe pressures on the government-run commercial system. One indication of the magnitude of these pressures is the growth of the volume of retail sales. From 1978 to 1982, sales increased 65 percent to 257 billion yuan. Sales in rural areas grew even faster, rising 83 percent to 148 billion yuan.

The government commercial system, which, like much of the rest of the economy, is centrally planned and based on a series of vertical linkages running from Beijing through the provinces down to basic units, was adequate for a period of slow change in demand and scarce supplies of consumer goods. But the network of purchasing stations, stores, and shops run by the Ministry of Commerce and the All-China Federation of Supply and Marketing Cooperatives, now part of the Ministry of Commerce, has been unable to efficiently handle either the increase in commodities now being offered for sale by farmers or the growing diversity of consumer demand. These failures have generated pressure for far-ranging reforms.

Rising consumer demand has led to efforts to improve the commercial system. Reforms now give greater autonomy to lower level units, allowing them to contract directly with suppliers.

In addition, free markets, severely curtailed during the Cultural Revolution, have been reopened and are becoming

increasingly important in meeting the growth of consumer demand. By 1982, there were nearly 45,000 of these markets, 41,000 of which were in rural villages. They accounted for 12.8 percent of the total value of retail sales, compared with 8 percent in 1978. For many commodities, particularly perishable food items, the importance of these markets is far greater than the aggregate figures indicate. One recent survey in Guangdong province indicated that sales of live poultry were nearly as much as the amount sold by the state commercial system, and the amount of vegetables sold exceeded that of the state commercial system by 20 percent. The growth of free markets has been critical to providing the higher quality non-staple food that has been increasingly in demand by China's consumers, and has provided a relief valve for the pressures that have built up in the state-operated commercial system.

State-run commerce will continue to decline in relative importance. In a striking development, the Government is now permitting private traders to handle an increasingly wide range of goods and even to transport commodities across provincial boundaries. As a result, wholesale markets serving both state commerce and private traders are beginning to emerge.

The Government sees growing commercialization as an essential part of modernizing agriculture and increasing production. Unless it is successful in improving the linkages between producers and consumers, however, many of the gains of the last few years could be in jeopardy.

### Future Income Growth

While the pressures previously described will continue, the growth of rural income in the future will likely slow. No further increases in government procurement prices for farm products are likely, as the Government is intent on holding the line on expenditures. In addition, changes in pricing practices will likely slow the growth of average farm prices, or even reduce them somewhat. The recent change in the pricing of cotton may be a forerunner of changes for other commodities (see box in cotton section).

A large share of the expansion in income over the next few years will likely come from rural industrial employment and from household sideline production. The easiest gains here have probably already been made, however, and the growth of income from these sources will probably be slower than in the recent past.

# Grain Marketing and Imports

Frederic M. Surls

**Abstract:** Only about one-fourth of the grain produced in China is marketed; most of the grain sold is used in the province that produced it. Imports have provided most of the central Government's supply of grain in recent years, but provincial surpluses are now cutting into import demand.

**Keywords:** China, grain, imports, marketing.

The grain marketing system, shifts in marketing policies, and changing regional grain surpluses and deficits have a major effect on the growth of grain imports. An understanding of how these factors operate and how they are changing can help explain the past behavior of grain imports and how import demand may shift in the future. While trends in aggregate national production and consumption are also significant, their importance is at times overshadowed by changes in marketing policies and shifts in regional supply and demand.

## The Marketing System

Until recently, the Government has been, for all practical purposes, the sole purchaser of grain in the countryside. After harvest, production teams, or more recently households operating under the household contract system, bring grain to local purchasing stations operated by the Ministry of Commerce. Grain deliveries are based on compulsory sales quotas passed down from the Ministry of Commerce in Beijing to production teams and households. There are two components to these quotas: a base delivery quota, fixed for several years according to historical average production, and an above-quota delivery target, which is apparently fixed annually, although in practice it may not change significantly for several years.

Once delivered, grain is weighed and graded, and producers are paid for quota deliveries. A 50-percent premium is added for the above-quota component of deliveries. Quota prices for all grain were raised 20 percent in 1979, and the above-quota premium was increased from 30 to 50 percent at the same time. Because of these changes and a growing above-quota share, the average price paid for grain rose more than 50 percent between 1977 and 1982.

Farmers can also sell grain in excess of the delivery quotas. The Government, at least in theory, will buy all grain offered in excess of quotas at a negotiated price. The price for these sales is supposed to be no lower than the 50-percent above-quota price.

A portion of the grain collected by the procurement stations is sent to local mills, generally located in county seats or rural towns, to be processed for sale to the local urban population and grain-deficit households. The balance of the grain is shipped to intermediate storage facil-

**Table 14.—Average grain procurement price, 1977-82**

Year	Procurement price <sup>1</sup>
	Yuan/ton
1977	256.6
1978	263.4
1979	330.7
1980	360.6
1981	381.7
1982	392.2

<sup>1</sup>Trade grain—milled rice and millet, other grains unprocessed.

Source: *China Stat. Yearbook*, 1983, p. 478.

ities or directly to mills in larger cities. Processed grain is ultimately sold to consumers at state-set retail prices through government grain shops. Retail sales of grain are rationed; purchasers must present valid ration coupons as well as cash.

In the last several years, farmers have also been permitted to sell grain privately in rural markets once delivery quotas are met. Sales through this channel are relatively small, amounting to only about 5 million tons in 1982. The majority of these sales likely go to farm households and cities in close proximity to the place of production. But commercial reforms adopted earlier this year permit production teams and farmers to transport grain across county and provincial boundaries for private sale, and the importance of free market sales may increase over time.

The Government is also an active participant in these markets. By standing ready to purchase all grain at the above-quota price, it effectively sets a floor on free-market prices. It can also release grain into the market, holding prices down.

## Low Commercialization

Unlike a developed market-oriented agricultural system such as that of the United States, only a relatively small share of China's grain production is marketed. The balance is retained on the farm for human consumption, livestock feed, and seed, or is added to household and production team stocks. Grain consumed on the farm is processed by households, in small commune-level mills, or by mills in nearby small towns. Between 1977 and 1982,



only an average of 22 percent of grain production was marketed.

While the procurement rate is low, it has been rising steadily, reaching 25 percent in the 1982/83 grain year (April 1982 to March 1983), compared with 20 percent in 1977/78 (figure 3). Higher procurement prices and the 17-percent rise in grain production during this period both contributed to the increase. Total procurements reached 88 million tons during 1982/83, a 56-percent increase from 1977/78 (figure 4).

## Growing Resales to the Countryside

While grain sales have been growing, demands on the Government for grain have risen at an even faster pace. A major requirement is for grain to be resold in rural areas to support farmers who specialize in producing cash crops and livestock and those in food-deficit areas. Between 1977 and 1982, these resales averaged about one-third of total procurements from the countryside.

Rural requirements have risen for several reasons. First, increased grain supplies to cash crop and livestock producers were a key feature of the new agricultural policies introduced in the late 1970's. During the Cultural Revolution, policies emphasized local self-sufficiency, and farmers were forced to concentrate on grain production. To remedy this problem, the Government in the late 1970's guaranteed grain supplies for cash crop producers, leaving them free to devote more area and inputs to these crops. This guarantee was a major reason for the dramatic rise in the production of crops such as cotton and oilseeds. Government grain sales to farmers in cash crop areas rose from 1.8 million tons in 1978 to over 5 million in 1981.

In addition, cash crop farmers who meet their procurement quotas are eligible for additional bonus purchases of grain, with the amount depending on the degree of overfulfillment. Sales for this purpose in 1981 were 2.4 million tons. Therefore, from 1978 to 1981, grain requirements for these purposes grew from less than 2 million tons to at least 7.5 million (about 10 million tons on a rough-weight basis), and probably increased further

in 1982. Additional amounts were also needed for the growing number of rural households specializing in raising livestock, working in forestry, or shifting out of agriculture altogether.

The influence of this program can be seen in the sharp growth of resales to rural areas, which rose 14 million tons (74 percent) between 1977/78 and 1982/83, substantially more than the 56-percent increase in total procurements. Because of rapidly rising resales, net grain procurements (gross minus resales) remained at about 15 percent of production throughout the period.

## Little Movement of Grain Between Provinces

A final feature of the marketing system is the absence of a truly national market for grain. Grain does move from surplus areas—mainly the Northeast and the Yangtze River provinces—into deficit regions—most notably the Northwest and Southwest (figure 5). Nevertheless, the amount of interprovincial shipments is small and does little to equalize consumption between regions.

Very little unambiguous information about the size of shipments out of surplus provinces is available. But the data seem to indicate that these shipments have dropped over time, falling from about 10 million tons in the mid-1950's to only about 2 million in 1978.<sup>1</sup> After 1978, these shipments failed to grow along with the increase in total government procurements, at least until 1983, when they suddenly increased. Shipments in 1982 were reportedly only 2.5 million tons. The bulk of what the Government procures continues to be used for the cities and to support deficit farmers within the province of production.

The low level of interprovincial movement of grain results from a combination of factors, including an overloaded transportation system that gives grain a low priority in favor of other bulk items, such as coal and

<sup>1</sup>See Chapter 3 of the Walker book cited in footnote 1 of the previous article for a detailed discussion of interprovincial transfers during the 1950's.

Figure 3

### Procurement Rates

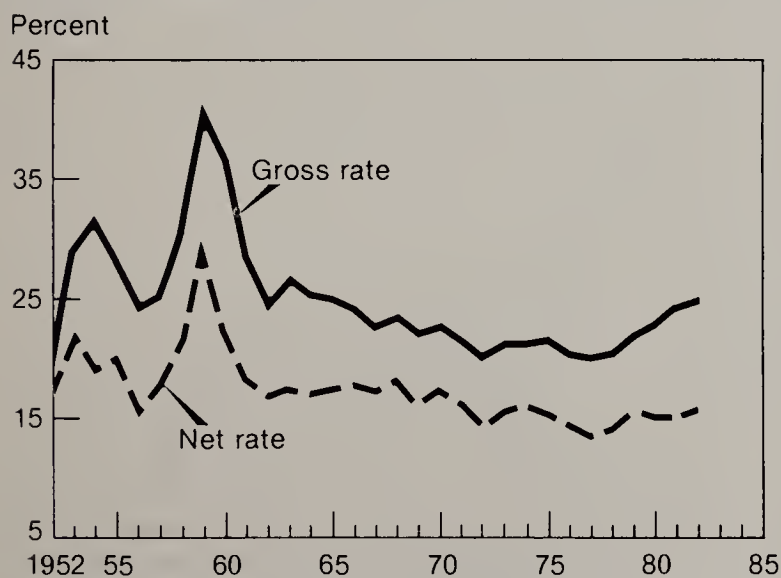


Figure 4

### Procurements

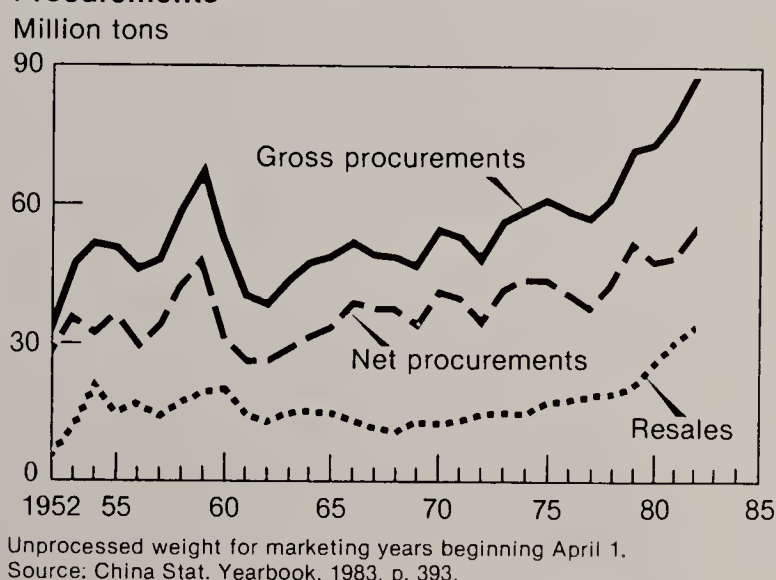


Figure 5—Probable flows of domestic grain





ore; the centrally planned nature of the economy; and central-provincial political relations. How these factors operate and interact is not clear. But it does seem certain that over the past 25 years the central Government has eased its demands on the provinces for grain, and that these demands have not risen in recent years, despite the growth of aggregate production and procurements. The central Government therefore has had only very limited amounts of domestic grain available. This limited government supply in the face of growing demand is the major reason for the surge in imports in the late 1970's.

## Grain Marketing Affects Imports

How the marketing system operates can have a substantial impact on grain import requirements. The beginning of China's grain import program in 1961 and the continuation of these imports after recovery from the disasters of the early 1960's corresponds with a fall in the procurement rate and an apparent decision to reduce pressures on the countryside (figures 3 and 4).

More recently, increases in imports in 1973 and 1977 appear to be tied to lower government grain supplies that occurred when total procurements dropped and resales to the rural areas remained stable or increased (figure 6). From 1978 onward, the growth of grain imports is closely linked to low interprovincial shipments in the face of rapid growth in demand for government grain. Without greater imports, the Government would have been unable to meet the requirements of the large urban areas and at the same time provide the guaranteed grain supplies for producers who shifted to cash crops. Higher imports were therefore a necessary condition for successful implementation of new agricultural policies.

Not a great deal is known about the distribution and use of imported grain in China. Several million tons go to supporting the large provincial-level cities of Beijing, Tianjin, and Shanghai, and additional amounts are used in and around the other major port cities, such as Dalian

and Qingdao. The rest apparently moves into the regular distribution system and becomes the largest part of the grain flowing to deficit regions (figure 5). In the case of Shanghai, for example, about half of the 2 million tons of imported grain entering the port is retained for use in the municipality. The rest is shipped inland to other areas. Imports provide about 40 percent of Shanghai's annual grain requirements and nearly all of its wheat consumption.

## Growing Procurements Are Reducing Imports

Following the record 1983 grain harvest, China's farmers sharply increased sales of grain to the Government. Preliminary figures put total procurements for the year up about 35 percent; much of the increase was wheat and corn. This surge in sales swamped procurement stations and storage facilities in many areas of the country.

Transfers of grain between the provinces and the central Government are set in contracts between Beijing and the provincial governments. The current contracts, which cover 1982/83 to 1984/85, set a generally stable level of interprovincial shipments, although year-to-year adjustments are possible within the limit of the 3-year total.

Because of the large harvest, however, agreed-upon shipments are now being set aside in a number of provinces. The most widely reported case has been Jilin province, where grain production increased 44 percent in 1983, and procurement stations were inundated with deliveries. This led to large supplementary purchases by the central Government. Households were organized to store grain on a commission basis for the Government; freight cars were mobilized to ship surplus grain out of the province; and new storage facilities were hurriedly constructed. This scenario was replayed on a smaller scale in a number of other provinces.

The overall outcome of the 1983 harvest, which came on top of a record 1982 crop, has undoubtedly been a large increase in stocks and a significant rise—probably on the order of several million tons—in the amount of grain moving out of surplus provinces. These shipments displace imports and are a major reason for the 2.6-million-ton drop in 1983 grain imports and the slow pace of import contracting so far in 1984.

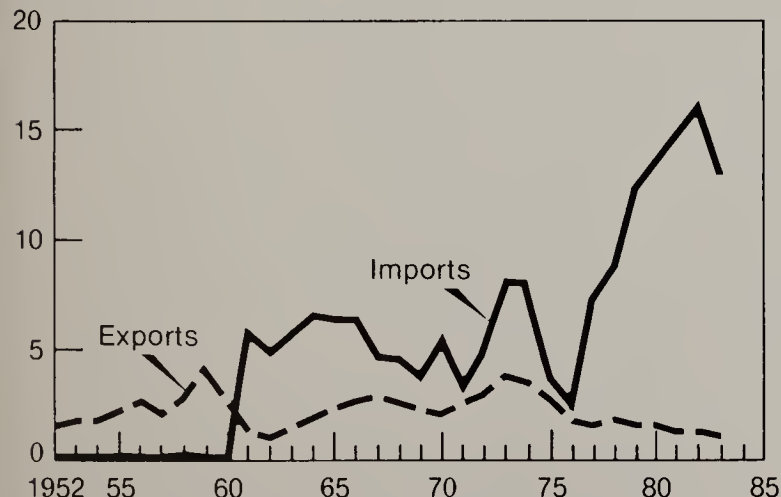
Another factor contributing to lower imports is a decline in provincial requirements for grain from the central Government. Good harvests have reduced provincial deficits, and the central Government is also curtailing bonus sales of grain to livestock producers and farmers who grow rapeseed, tobacco, and jute—crops that have been in oversupply. It has also cut grain deliveries to chronically deficit areas.

China's grain imports during the first half of 1984 were running at about a 10-million-ton annual rate. Unless the 1984 grain crop is very poor, the large stocks built up in the provinces over the past several years will continue to hang over the market, and interprovincial shipments will remain at elevated levels. Increased supplies of grain available to the central Government, coupled with a drop in the rate of demand growth, will likely prove a disappointing combination for world exporters through 1984 and into 1985.

Figure 6

### Grain Trade

Million tons



Source: China Stat. Yearbook, 1983, pp. 423, 438; ERS estimates.

## Long-Run Import Prospects

China is currently undergoing structural changes that will have a potentially important, but as yet unpredictable, impact on grain import demand. On the one hand, demand for commercial grain should increase rapidly. The pattern of growth that China has now chosen means substantial increases in the demands on the Government and free market for grain, as well as ongoing commercialization of grain production. The push for rural specialization; growing urbanization, particularly the rapid development of rural towns and villages; and the substantial shift of labor from agriculture to other occupations envisioned by China's planners over the next 20 years imply a continuing decline in local self-sufficiency.

In addition, continued income growth means ongoing growth in demand for preferred grains such as wheat, and less willingness to rely on local grain supplies. Finally, the spread of a modern livestock sector will accelerate the growth of demand for feed grains and less local self-sufficiency in feedstuffs.

On the other hand, supplies of commercial grain will also rise. Improvements in the transportation system have a high priority in government plans. As these are put in place, movement of grain out of surplus areas will become easier. In addition, the central Government is

now investing in "grain bases," designated counties where there are good prospects for increasing grain procurements. Payback on these investments is to be in the form of additional sales to the Government. These sales will be specifically earmarked for central Government use. Finally, while the future growth of private grain sales is uncertain, they are potentially an important source of additional supplies of commercial grain.

On balance, the central Government will probably be hard-pressed to mobilize the required quantities of grain from domestic sources, particularly as the rate of growth in grain production slows in the coming years. If so, then continued reliance on imports, perhaps modest increases, seems the most likely scenario.

One additional development could reinforce this tendency for imports to rise. Until now, the agricultural sector has been able to increase output of both grain and other crops through more efficient resource use stimulated by new policies. As the impact of these policies diminishes, however, there will be difficult choices to make. The Government, which has until now viewed large grain imports as a temporary measure, may be forced to opt for permanently higher purchases in order to free acreage for production of other crops, such as cotton, oilseeds, and sugar. With the pace of yield gains slowing, increasing acreage may be the only way to avoid higher imports of crops other than grain.



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**Table 15.—Sown area, yield, and production of grains, 1979-83<sup>1</sup>**

Grain	1979	1980	1981	1982	1983
<i>Million hectares</i>					
Sown area					
Wheat	29.36	29.23	28.31	27.94	28.60
Rice	33.87	33.88	33.30	33.06	33.30
Coarse grains	33.70	32.51	31.13	30.53	30.64
Corn	20.73	20.35	19.43	18.51	18.60
Sorghum	3.17	2.69	2.61	2.78	2.80
Millet	4.17	3.87	3.89	4.04	4.04
Barley	4.13	4.10	3.80	3.80	3.80
Oats	1.50	1.50	1.40	1.40	1.40
Tubers	10.95	10.15	9.62	9.36	9.40
Others <sup>2</sup>	11.38	11.46	12.60	12.10	12.51
Total <sup>3</sup>	119.26	117.23	114.96	113.40	114.50
<i>Tons/hectare</i>					
Yield <sup>4</sup>					
Wheat	2.14	1.89	2.11	2.45	2.85
Rice	4.24	4.13	4.32	4.88	5.07
Coarse grains	2.47	2.59	2.60	2.82	3.04
Corn	2.90	3.08	3.05	3.26	3.56
Sorghum	2.40	2.52	2.55	3.40	3.61
Millet	1.47	1.41	1.48	1.63	1.73
Barley	1.82	1.85	1.97	2.11	2.11
Oats	1.20	1.20	1.21	1.19	1.18
Tubers	2.60	2.73	2.70	2.85	3.11
Others <sup>2</sup>	1.24	1.18	1.16	.89	1.18
Total <sup>3</sup>	2.78	2.73	2.83	3.13	3.38
<i>Million tons</i>					
Production					
Wheat	62.73	55.21	59.64	68.42	81.39
Rice	143.75	139.91	143.96	161.24	168.87
Coarse grains	83.10	84.23	80.80	86.00	93.00
Corn	60.04	62.60	59.21	60.30	66.27
Sorghum	7.63	6.78	6.65	9.46	10.10
Millet	6.13	5.45	5.76	6.58	6.98
Barley	7.50	7.60	7.48	8.00	8.00
Oats	1.80	1.80	1.70	1.66	1.65
Tubers <sup>5</sup>	28.46	27.73	25.97	26.68	29.25
Others <sup>2</sup>	14.08	13.48	14.65	11.09	14.77
Total <sup>3</sup>	332.12	320.56	325.02	353.43	387.28

<sup>1</sup>Data presented here are official figures released by the SSB or the Ministry of Agriculture, except for (1) 1983 area, (2) 1983 total and individual coarse grain production, and (3) 1980-83 barley and oat area and production. The coarse grain series is inconsistent with the USDA historical series prior to 1976 (available in previous issues of this report and in various Foreign Agricultural Service grain circulars). <sup>2</sup>Consists of soybeans, pulses, and other miscellaneous grains. All of these items are included in China's definition of total grains. <sup>3</sup>PRC definition. <sup>4</sup>Calculated from area and production figures. <sup>5</sup>Converted to a grain-equivalent weight using a 5:1 conversion ratio.

Sources: *China Ag. Yearbook, 1980, 1981, and 1982; China Stat. Yearbook, 1981, and 1983; and various annual SSB Communiques.*



**Table 16.—Sown area, yield, and production of oilseeds and cotton, 1979-83**

Item	1979	1980	1981	1982	1983 <sup>1</sup>
1,000 hectares					
Area					
Cotton	4,512	4,920	5,185	5,829	6,000
Oilseeds, USDA <sup>2</sup>	16,962	18,175	20,521	21,594	21,105
Soybeans	7,247	7,227	8,023	8,414	8,000
Oilseeds, PRC <sup>3</sup>	7,051	7,928	9,134	9,343	9,070
Peanuts	2,075	2,339	2,472	2,416	2,400
Rapeseed	2,761	2,844	3,801	4,122	3,855
Sesameseed	843	776	818	965	965
Sunflowerseed	367	845	1,040	814	850
Other oilseeds <sup>4</sup>	1,005	1,124	1,003	1,026	1,000
Kg/hectare					
Yield					
Cotton	489	550	572	617	773
Oilseeds, USDA <sup>2</sup>	1,028	1,114	1,193	1,254	1,356
Cottonseed	978	1,100	1,145	1,235	1,546
Soybeans	1,029	1,099	1,162	1,073	1,220
Oilseeds, PRC <sup>3</sup>	913	970	1,117	1,265	1,163
Peanuts	1,360	1,539	1,547	1,621	1,646
Rapeseed	870	838	1,069	1,372	1,112
Sesameseed	495	334	623	354	362
Sunflowerseed	926	1,077	1,281	1,580	1,588
Other oilseeds <sup>4</sup>	452	479	471	601	613
1,000 tons					
Production					
Cotton <sup>5</sup>	2,207	2,707	2,968	3,598	4,637
Cotton (1,000 bales) <sup>5</sup>	10,100	12,400	13,600	16,500	21,300
Oilseeds, USDA <sup>2</sup>	17,438	20,248	24,484	27,084	28,622
Cottonseed	4,414	5,414	5,936	7,196	9,274
Soybeans	7,460	7,940	9,325	9,030	9,760
Oilseeds, PRC <sup>3</sup>	6,435	7,691	10,205	11,817	10,550
Peanuts	2,822	3,600	3,826	3,916	3,951
Rapeseed	2,402	2,384	4,065	5,656	4,287
Sesameseed	417	259	510	342	349
Sunflowerseeds	340	910	1,332	1,286	1,350
Other oilseeds <sup>4</sup>	454	538	472	617	613
Available oil <sup>6</sup>	2,575	2,945	3,842	4,439	4,297
Available meal <sup>6</sup>	6,538	7,199	9,090	9,995	10,207

<sup>1</sup>All 1983 figures are USDA estimates except for output of cotton, cottonseed, soybean, oilseeds (PRC), peanuts, rapeseed, and sesameseed. <sup>2</sup>Oilseed data published by USDA include only: soybeans, cottonseed, peanuts, rapeseed, and sunflowerseed; area includes cotton. <sup>3</sup>China's total oilseed data exclude soybeans and cottonseed. <sup>4</sup>"Other oilseeds" are calculated as a residual and include mainly linseed and castor bean; oil-bearing tree seeds are excluded. <sup>5</sup>Cotton production is on a ginned-weight basis. Bales are 480 pounds. <sup>6</sup>Available oil and meal are estimated for the marketing year following harvest by applying assumed crush and extraction rates to production plus net imports of soybeans, soybean oil, and soybean meal.

Source: *China Stat. Yearbook, 1981 and 1983; China Ag. Yearbook, 1981 and 1982; and various annual SSB Communiqués.*

**Table 17.—Livestock yearend inventories, 1975-83**

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983
<i>Million head</i>									
Hogs	281.17	287.25	291.78	301.29	319.71	305.43	293.70	300.78	298.54
Large animals	96.86	94.98	93.75	93.89	94.59	95.25	97.64	101.13	103.50
Draft animals	51.22	50.42	49.79	50.23	50.29	50.88	54.71	58.33	—
Cattle	73.55	71.69	70.40	70.72	71.35	71.68	73.30	76.07	78.08
Horses	11.30	11.44	11.45	11.25	11.15	11.04	10.97	10.98	—
Mules	8.13	77.66	76.30	7.48	7.47	7.75	8.42	8.99	—
Donkeys	3.35	35.36	37.15	3.87	4.02	4.17	4.33	4.46	—
Camels	0.54	0.55	0.56	0.57	0.60	0.61	0.63	0.61	—
Sheep	95.33	92.71	93.53	96.40	102.57	106.63	109.47	106.57	—
Goats	68.04	65.46	67.83	73.54	80.57	80.68	78.26	75.22	166.95

— Not available

Source: *China Stat. Yearbook, 1983*, and the SSB Communique, 1984.

**Table 18.—Meat output—total and per capita availability**

Year	Meat Output				Per capita meat availability <sup>1</sup>
	Pork	Beef	Mutton	Total	
<i>1,000 tons</i>					<i>Kilograms</i>
1952	—	—	—	3,385	5.9
1957	—	—	—	3,985	6.2
1962	—	—	—	1,940	2.9
1965	—	—	—	5,510	7.6
1970	—	—	—	5,965	7.2
1975	—	—	—	7,970	8.7
1976	—	—	—	7,805	8.4
1977	—	—	—	7,800	8.3
1978	7,890	310	360	8,560	8.9
1979	10,015	230	380	10,625	10.9
1980	11,341	269	445	12,055	12.3
1981	11,884	249	476	12,609	12.7
1982	12,718	266	524	13,508	13.3
1983	13,161	315	545	14,021	13.7

— Not available.

<sup>1</sup>Includes those exported.

Sources: All meat output figures are from *China Ag. Yearbooks, 1980, 1981, and 1982*, except the 1983 figures, which are from the SSB Communique, 1984.



**Table 19.—Recent grain trade agreements and contracts<sup>1</sup>**

Country & Date signed	Grain	Amount	Delivery period	Remarks
<i>Million tons</i>				
ARGENTINA Sep. 1980	Wheat, corn, & soybeans	1.0-1.5 yearly	1981-1984	Replaces final year (1981) of May 1978 agreement in order to include soybeans and to set minimum amount for wheat. Sales by private contract.
AUSTRALIA Nov. 1981	Wheat	1.5-2.5 yearly	1982-1984	Three-year long-term agreement, presumably with 12-month credit provisions.
July 1983	Wheat	1.5	late 1983- early 1984	First contract for final year of LTA.
Oct. 1983	Wheat	1.3	1984	Fulfills maximum for final year of LTA.
CANADA May 1982	Wheat	10.5-12.6	Aug. 1982- Jul. 1985	Three-year agreement. Credit 12 months.
June 1983	Wheat	2.1	Aug. 1983- Jan. 1984	First sale for second year of agreement. Cash sale with pay- ment in Canadian dollars. Includes grades 1-3 Western Red Spring Wheat and grades 1 & 2 Red Winter wheat.
June 1983	Wheat	.5-.6	July- Sep. 1983	Extra sale of low grade wheat.
Dec. 1983	Wheat	1.4	Feb.- July 1984	Cash sale with payment in Canadian dollars. Grades 1-3 Western Red Spring Wheat and Western Red Winter Wheat.
EC Sep. 1980	Wheat	.5-.7 yearly	Aug. 1980- July 1983	Three-year agreement. Sales by private contract.
UNITED STATES Oct. 1980	Wheat & corn	6.0-8.0 yearly	1981-1984	Four-year agreement (approximately 15 to 20 percent corn). Sales by private contract. Option to pur- chase up to 9 million tons without prior notification. Government-to- government consultations required for purchases below 6 or above 9 million tons.

<sup>1</sup>Earlier years are available in previous issues of this report. Contract data given here are as of May 1984.

**Table 20.—Trade in grain, by country, 1981-83**

Item	Calendar year			July/June year		
	1981	1982	1983 <sup>1</sup>	1981/82	1982/83	1983/84 <sup>2</sup>
<i>1,000 tons</i>						
<b>IMPORTS:</b>						
Total grain	13,538	15,573	13,096	14,681	15,880	10,500
Argentina	126	249	2,996	245	2,114	1,012
Australia	1,285	2,210	451	1,492	1,210	1,875
Canada	3,142	3,527	4,742	3,068	4,300	3,775
EC	651	710	884	145	1,485	123
Thailand <sup>3</sup>	248	416	208	375	281	150
U.S. <sup>4</sup>	8,085	8,460	3,815	9,355	6,489	3,600
Wheat	12,702	13,303	11,375	13,060	13,052	10,000
Argentina	126	94	2,946	199	1,957	1,010
Australia	1,261	2,102	451	1,384	1,210	1,800
Canada	3,065	3,527	4,659	2,991	4,217	3,700
EC	633	710	860	127	1,461	123
U.S. <sup>4</sup>	7,617	6,870	2,458	8,359	4,207	3,400
Coarse grain	727	1,948	1,675	1,325	2,664	<sup>5</sup> 500
Argentina	0	155	50	46	157	2
Australia	24	108	0	108	0	75
Canada	77	0	83	77	83	75
EC	18	0	24	18	24	0
Thailand	140	95	161	80	118	150
U.S. <sup>4</sup>	468	1,590	1,357	996	2,282	200
<b>EXPORTS</b>						
Rice <sup>6</sup>	583	<sup>2</sup> 460	<sup>2</sup> 550			

<sup>1</sup>Preliminary. <sup>2</sup>USDA forecasts as of May 1984. <sup>3</sup>Includes rice imports. <sup>4</sup>Direct exports plus transshipments through Canada. <sup>5</sup>Forecasts only changed to October/September year for coarse grain. <sup>6</sup>Milled basis. China exports rice primarily to Asian and Eastern European nations and Cuba.

Sources: Official partner-country trade statistics.



**Table 21.—Trade in other agricultural commodities, by country, 1981-83**

Item	Calendar year			Marketing year <sup>1</sup>		
	1981	1982	1983	1981/82	1982/83	1983/84
<i>1,000 tons</i>						
<b>IMPORTS:</b>						
Cotton				457	213	55
Egypt				26	16	0
Guatemala				2	7	1
Mexico				51	10	2
Pakistan				113	104	4
Sudan				10	16	38
Other				70	56	7
U.S.				185	4	3
Soybeans <sup>2</sup>	554	298	0	500	0	0
Argentina	81	53	0	95	0	0
Brazil	0	0	0	0	0	0
U.S.	473	246	0	401	0	0
Soybean oil <sup>2</sup>	53	41	0	30	10	0
Argentina	3	0	0	0	0	0
Brazil	24	25	0	15	10	0
U.S.	26	0	0	—	0	0
Sugar <sup>3</sup>	1,184	2,480	1,362			
Australia	371	387	325			
Brazil	13	119	0			
Cuba	573	915	772			
Philippines	90	190	0			
Thailand	110	518	90			
Others	27	350	175			
<b>EXPORTS:</b>						
Soybeans <sup>2</sup>	136	128	316	120	285	350
Hong Kong	8	10	11	10	10	15
Japan	113	112	288	93	258	300
Malaysia <sup>4</sup>	9	5	6	6	6	10
Singapore <sup>4</sup>	6	10	10	8	10	15
Soymeal	170	243	540	245	540	550
Hong Kong <sup>5</sup>	54	92	150			
Japan	2	2	18			
Malaysia	14	49	120			
Singapore	99	96	110			
Other	NA	4	143			
Sugar <sup>3</sup>	145	150	NA			

NA = Not available. — = Negligible.

<sup>1</sup>USDA forecasts as of June 1984. Marketing years = cotton, August/July; soybeans, September/August; and soybean oil and meal, October/September. <sup>2</sup>Includes other origins or destinations. <sup>3</sup>Raw-value basis. <sup>4</sup>Marketing year estimated by distributing the calendar-year figures on a 2/3 and 1/3 basis. <sup>5</sup>Includes all oilmeals exported to Hong Kong.

Sources: Official partner-country trade statistics; various issues of Oil World; International Sugar Organization, *Sugar Yearbook*, 1982, and ISO, *Statistical Bulletin*, March 1984, Vol. 43, No. 3.

**Table 22.—U.S. agricultural exports to China, 1980-83<sup>1</sup>**

Item	Fiscal years				Calendar years			
	1980	1981	1982	1983	1980	1981	1982	1983
<i>1,000 tons</i>								
Wheat	4,149	7,953	8,221	1,921	6,369	7,617	6,870	2,458
Corn	1,788	725	1,117	2,161	1,667	468	1,591	1,356
Tobacco	—	—	0	0	—	—	0	0
Cattle hides, whole <sup>2</sup>	283	206	383	154	405	186	323	104
Soybeans	810	531	370	0	665	473	246	0
Cotton	514	254	186	2	463	249	117	2
Tallow, inedible	31	14	15	0	31	4	14	0
Soybean oil	100	26	2	0	100	26	0	0
<i>1,000 dollars</i>								
Wheat	691,775	1,402,217	1,268,149	285,423	1,088,709	1,298,277	1,053,468	377,686
Corn	225,500	108,889	138,668	250,130	224,540	62,466	189,358	158,138
Tobacco	204	54	0	0	202	54	0	0
Cattle hides, whole	8,829	6,040	13,236	5,197	12,657	6,221	10,848	3,657
Soybeans	200,707	154,716	95,264	0	173,491	129,708	63,225	0
Cotton	754,535	481,438	292,417	3,256	701,298	463,965	177,771	2,342
Tallow, inedible	15,965	6,311	7,022	0	15,538	1,743	6,477	0
Soybean oil	56,452	17,091	1	0	56,452	17,091	0	0
Others	3,104	7,196	4,321	2,212	4,337	6,061	3,555	2,287
Total agricultural	1,957,071	2,183,952	1,819,078	546,218	2,277,224	1,985,586	1,504,702	544,110
Total nonagricultural					1,540,060	1,642,456	1,406,634	1,619,109
Total exports					3,817,284	3,628,042	2,911,336	2,163,219

— = Negligible.

<sup>1</sup>U.S. domestic exports, f.a.s.-value basis. Exports include transshipments of agricultural products through Canada. <sup>2</sup>Numbers in thousands.

Sources: U.S. Bureau of the Census, "U.S. Agricultural Exports," country by commodity, various printouts, 1979-83; U.S. Department of Agriculture, Economic Research Service, U.S. Foreign Agricultural Trade Statistical Report, various issues.



**Table 23.—Major U.S. agricultural imports from China, by calendar year, 1979-83<sup>1</sup>**

Commodity	1979	1980	1981	1982	1983
<i>1,000 dollars</i>					
Meats and products, excluding poultry	956	944	830	1,006	1,040
Other meats, fresh or frozen	950	943	736	1,005	971
Poultry and products	9,585	24,438	24,668	11,506	8,368
Eggs	254	283	289	447	591
Feathers and down, crude	9,331	24,155	24,377	11,060	7,776
Hides and skins	506	913	715	836	1,119
Furskins	105	508	131	481	892
Wool, unmanufactured, apparel grades	3,440	4,309	5,860	4,400	4,182
Sausage casings	1,762	2,948	2,991	1,548	2,438
Silk, raw	6,442	4,267	6,863	5,705	5,140
All other animal products	12,782	15,986	14,790	12,213	14,655
Grains and feeds	1,554	2,774	3,360	3,360	3,889
Fruits and preparations	1,534	2,299	3,281	5,860	6,519
Fruits, prepared or preserved	1,533	2,260	3,279	5,846	6,517
Nuts and preparations	7,771	1,723	1,886	2,133	5,846
Vegetables and preparations	2,837	20,220	36,539	46,220	43,356
Vegetables, prepared or preserved	2,600	19,947	36,116	45,846	42,918
Mushrooms, canned	196	13,503	22,942	27,997	29,091
Water chestnuts	411	2,432	6,606	9,239	6,303
Sugar and related products	6,710	6,972	8,033	7,461	8,078
Spices	4,162	2,824	4,072	5,557	6,103
Beverages	8,391	11,329	14,101	30,154	22,483
Coffee and products	153	0	32	4,002	1,444
Cocoa and products	5	237	1,674	13,958	7,935
Tea	7,660	9,922	10,731	9,995	9,938
Malt beverages	424	681	1,313	1,629	2,413
Oilseeds and products	3,483	2,112	153,357	2,280	7,902
Oilseeds and oilnuts	70	131	153,017	1,629	6,361
Oils and waxes, vegetable	3,413	1,976	340	651	1,541
Seeds, field and garden	52	278	1,100	1,367	778
Essential oils	5,007	13,327	9,882	11,974	13,944
Drugs, crude, natural	7,913	13,629	4,999	12,810	8,282
All other vegetable products	796	1,815	2,001	3,703	3,422
Total agricultural commodities	85,683	133,107	299,328	170,093	167,544
Total nonagricultural commodities	462,817	909,220	1,530,699	2,045,763	2,049,956
Total imports	548,500	1,042,327	1,830,027	2,215,856	2,217,500

<sup>1</sup>Imports for consumption, customs-value basis.

Sources: U.S. Department of Commerce, Bureau of the Census, "U.S. Agricultural Imports," country by commodity, various printouts; U.S. Department of Agriculture, Economic Research Service, U.S. Foreign Agricultural Trade Statistical Report, various issues.

## CONVERSION EQUIVALENTS

Chinese	Metric	English
1 mu	0.0667 hectare	0.1647 acre
15 mu	1.0 hectare	2.4711 acres
1 jin (catty)	0.5 kilogram =	1.1023 pounds
1 dan (100 jin)	50.0 kilograms =	110.23 pounds
1 dun (ton)	1,000.0 kilograms =	2,204.6 pounds
1 jin/mu	7.5 kilograms/hectare	6.93 pounds/acre

Crops	Pounds/bushel	1.0 bushel	1.0 ton
wheat, potatoes, soybeans	60	0.02722 ton	36.743 bushels
rye and corn	56	0.02540 ton	39.368 bushels
barley	48	0.02177 ton	45.929 bushels
oats	32	0.01452 ton	68.894 bushels
cotton (480-lb bale)	NA	NA	4.593 bales
cotton (500-lb running bale)	NA	NA	4.409 bales

### Exchange rate

In 1983 \$1 equaled 1.98 yuan.

## MAJOR SOURCES

*Ag. Econ. Handbook*

Agricultural Technical Economic Handbook  
Editing Committee, *Nongye jishu jingji shouce*  
(*Agricultural Technical Economic Handbook*),  
Beijing, Nongye chubanshe, May 1983.

*China Ag. Yearbook*

He Kang, Editor and Chairman of Agricultural  
Yearbook Committee, Various issues published in 1980, 1981, 1982.  
*Zhongguo nongye nianjian* (*China Agricultural Yearbook*), Beijing,  
Nongye chubanshe.

*China Stat. Abstract*

State Statistical Bureau, Editor, *Zhongguo*  
*tongji zaiyao* (*China's Statistical Abstract*),  
Beijing, Zhongguo tongji chubanshe, June, 1983.

*China Stat. Yearbook*

State Statistical Bureau, Editor, Various  
issues published in 1981 and 1983. *Zhongguo*  
*tongji nianjian* (*China Statistical Yearbook*)  
Beijing, Zhongguo tongji chubanshe.

FB or FBIS

Foreign Broadcast Information Service, Daily  
Report: China, National Technical  
Information Service, U.S. Department of  
Commerce, Springfield, Virginia.

SSB Communique

Communiques of the State Statistical Bureau  
of the People's Republic of China in  
fulfillment of China's National Economic  
Plans, Beijing, China's Financial-Economic  
Press, 1980, 1981, 1982, 1983, and 1984.  
These communiques are also published in  
People's Daily and FBIS.





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